Usenet Newsgroup Archive: rec.radio.amateur.homebrew

1996-01 - 1996-07

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Date span: 1996-01-01 through 1996-07-31

Source text: rec.radio.amateur.homebrew.txt

Source item: https://archive.org/details/usenet-rec

Messages included in this PDF: 4,842

Message records with no readable body available in the source text: 8

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. Re: 90 ohm cable on 300 ohm antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: Darrell Barabash <barabash@iamerica.net>
Message-ID: <30E8C1E5.7304@iamerica.net>
Source record: 108424
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Loren Coe wrote:
>
> what determines the impedance of an antenna? is there anything i can do
> to mitigate the need for a matching xfmr.
>

Virtually every physical aspect of an antenna affects its impedance. Generally, though, a yagi type antenna is designed with a dipole as the driven element. Your antenna is 300 ohms because the driven element is (probably) a "folded dipole". A folded dipole looks like a rather narrow an elongated rectangle. One property of a folded dipole is that the "folding" is usually designed to cause a 4:1 impedance increase. Thus, a dipole which is typically about 73 ohms is transformed to about 292 ohms (300 ohms effectively).

Replacing the driven element with a conventional dipole is one way of avoiding the matching transformer. But, you should still use a 1:1 coaxial balun to convert from unbalanced to balanced.

Darrell
Grapevine, TX

2. Re: Atlas 210X power output Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: aswNS@hamp.hampshire.edu
Message-ID: <117cc$9351.1c3@news.hampshire.edu>
Source record: 108425
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On 27 Dec 1995 22:48:51 GMT Michael G. Reiney (mreiney@hevanet.com) wrote in rec.radio.amateur.homebrew:

: I have an Atlas 210X that works fine on 40 meters and up. On 75 meters, I can only
: get about 40W out of it.
: I hypothesize that if the high freq power out is ok, the transistors are good.
: The 80M filters are not tunable, so they've probably not been tweeked.

I obtained a 210X a couple of years ago, before a year-long trip to Nicaragua (where I operated as YN1ASW). I thought an older simpler rig might be more reliable and maintainable in a situation where I would have little test equipment and parts accessibility would be difficult. I checked the rig out at home with a regulated power supply, but when I got to Nicaragua I had a number of unexpected problems. First, my power source was a 12V battery charged by a solar panel, and I found the Atlas really needed the extra voltage available when the battery was under charge, the output power would fall off a lot when the voltage fell from 13.6 down to 12V.

More seriously, I found that there were serious instability problems if the rig looked into a reactive load. It would work fine directly into a dummy load, but through a tuner into the load or into a real antenna, whether through the tuner or not, it would break into parasitic oscillations as the drive was brought up to a critical level. I don't know exactly what frequency the oscillations were, but they tended to wipe out my housemates' VHF TV reception, and this put major constraints on my operating schedule.

I was able to get some control over the situation by putting a high resistive load (I think I used something like 1000 ohms, 2 watts -- I had a limited stock of resistors) across the input of the tuner. The idea was to have a high enough value that it would take a negligible amount of power at frequencies where the load looked like 50 ohms, but at other frequencies where presumably the antenna and/or the tuner looked like some kind of high-Q circuit this might damp it enough to suppress the parasitics. I was able to operate at reduced power levels this way, but any attempt to go for full power would result in parasitics again.

My operation was mostly on 20 meters, sometimes on 15 when it would support my skeds back to the US. I never was able to get more than about 50 watts out of the rig.

When I first obtained the rig I got a packet of info from Hi Manuals, which included a lot of info on various mods in early production versions of the Atlas, some of which I recall had to do with power output or stability problems. As far as I could tell my own Atlas was a late enough model to incorporate all the fixes, but it still gave me a lot of problems. My conclusion is that it just pushed too hard at the limits of the technology of its day, and that variations in the semiconductors probably weren't adequately protected against.

I don't know if any of this is relevant to your problems, but maybe there are some connections. I would definitely look for parasitics that may be robbing power from the operating frequency.

If anyone reading this has any comments on the problems I experienced I would appreciate hearing them. When I left Nicaragua in Dec. 94 I put the rig in storage there, as I expect to return there for another extended stint in the next year or two. But it would be nice if I could go back armed with some ideas about how to get the 210X to behave a bit better.

73, Al N1AW
--
Al Woodhull
awoodhull@hamp.hampshire.edu
n1aw@k1mea.#wma.ma.usa.na
n1aw@ka1jy.ampr.org

3. Re: NUTS AND BOLTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: TSJV87A@prodigy.com
Message-ID: <4c8s94$ld8@usenetp1.news.prodigy.com>
Source record: 108426

First, I have no connection with the magazine other than to enjoy reading it once in a while. It is published monthly by T & L Publications, Inc. 430 Princeland Court, Corona, Ca 91719 Pnone 909-371-8497 Fax 909-371-3052
Internet Address 74262.3664@compuserve.com
Subscription line 1-800-783-4624

Hope this helps you. They send me a free copy about once a year. I enjoy receiving it to the point that I am concidering subscribing.

Ernie Hansen, K3VVV, tsjv87a@prodigy.com

4. Re: NUTS AND BOLTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: lrware@aol.com
Message-ID: <4c928j$p19@newsbf02.news.aol.com>
Source record: 108427

Hi:
It's called "Nuts & Volts"
Subscriptions at: 1-800-783-4624
BTW: I like it a lot, good deals on suplus, and some good tech.
articles..
-larry

5. Re: Sending digital data on 27/49Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: {Gary}turtle@wwa.com
Message-ID: <4c95ge$3hk@kirin.wwa.com>
Source record: 108428

```
You might try the digital channels used for radio control:
27.145
27.195
ect

73 Gary KF9CM
```

6. Re: Transmitting 300baud data on 27/49Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: gcouger@master.ceat.okstate.edu
Message-ID: <4c9nl5$8of@news.cis.okstate.edu>
Source record: 108429

In article <4c49gn$6a3@newsbf02.news.aol.com>,
Warhurst <warhurst@aol.com> wrote:
>Julian Warhurst
>warhurst@aol.com
>
>I am in the process of designing a low baud rate data link for a remote
>instrumentation station. I had considered using the 49Mhz RC/Cordless
>Telephone or the 27Mhz "Citizens Band" frequencies simply because of the
>availability and low cost of the hardware. However the range of about 2
>miles proved inadequate for a 100mW 49Mhz transmitter, but a 3 watt 27Mhz
>hand held transceiver worked perfectly.
>Here are my questions:
>
>Are there any restrictions on transmitting data (300 baud FSK) on 27Mhz
>above the 100mW power threshold?
>
A couple of years ago I looked into this fairly extensively. 27 MHz
CB is a no - no as is commercial 50 150 and 450 MHZ bands. We ended up
using the 4?? MHz GMARS citizens band and I am not sure that this is
stirctly leagle.

If you are building a personal deveice I would look in to using directional
antennas you only need 5 db gain over the antenna you are using on 27 MHz
a 3 element Yagi-Uda on each end might do. This is not leagle for part 15
of the FCC rules as it is no longer defined as 100 mw but defined volts
per square meter and a derictional antenna will exced these levels.

If it is for personal use a ham licence is easy to get and 220 & 440
are leagle at any power level.

For a commercial device I don't know of a solution.

For and expermential device of any kind the FCC issues expermanetal
licences for one year at a time that are easy to renue. As I recall you
need to fill out a form and include a letter explaining what you are doing.

Good luck
Gordon AB%DG

Gordon Couger senior software specialist
Biosystems & Agricultural Engineering. 114 AG Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405 744 8392 day 625-2855 evenings

7. 2M T/R relay plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: JOHNWHITE@gnn.com
Message-ID: <4c9phd$9g8@news-e1a.megaweb.com>
Source record: 108430

I am looking for construction details for a 2 Meter T/R relay.
Any help?

Thanks,

John KD4YRB

8. NUTS AND BOLTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: mwilde@fn1.freenet.edmonton.ab.ca
Message-ID: <4c83ll$h27@news.sas.ab.ca>
Source record: 108431

I saw a posting that referenced a magazine or store (not sure what exactly) with the name Nuts and Bolts. The reference was with Electronic Test Equipment. If anyone knows who they are and where I can find out more about them I would appreciate knowing.

Please reply to my email (unless you think everyone would bennefit)

73's
VE6MML

--
M WILDE email: mwilde@freenet.edmonton.ab.ca
7708 181 STREET phone: 403-481-4756
EDMONTON, AB, T5T 1Z7

9. Re: silver plating, help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: Ian G3SEK <G3SEK@ifwtech.demon.co.uk>
Message-ID: <642326134wnr@ifwtech.demon.co.uk>
Source record: 108432

In article: <4c6na7$68j@ren.cei.net> dallen@cei.net (Allen Finne) writes:

: I dimly remember reading an article once describing the use of exhausted
: black and white photographic fixer as the electrolyte for silver plating.
: I do a bit of photograhy and have old fixer available. The fact I can't
: find the article only made me determined to figure out what the method
: outlined was. I have played around a bit and found that I can sucessfully
: deposit a nice even coat of silver on a piece of brass. My problem is
: mixed results getting the silver to adhere well. I have managed to get
: what I'd consider proper plating on an object, but later using the same
: parameters the silver film can be rubbed off. I have played with varying
: voltages, currents, and methods of cleaning the brass prior to plating.
: Here are the parameters I'm using:
: 1) Voltage source is a 1.5v dry cell.
: 2) Series resistance of 12k in circuit giving a current flow of 1
: milliamp or so.
: 3) Fixer saturated by loading it up with old photographic paper prior to
: plating.
: 4) Silver donor is an old piece of solid silver silverware.
: 5) Cleaning the brass with a scotch-brite pad then wiping down with
: alcohol to de-grease.

The article was "Safe, Sensible Silverplating" by J S Gurske, K9EYY in
'Ham Radio', February 1985. It works very well for copper and brass.

The main feature of K9EYY's method is that it doesn't use a conventional
bath of electrolyte. The plating is applied using electrolyte soaked into a
sponge which is tied onto the end of a carbon rod. The rod is connected to
the positive supply and the metal to be plated is connected to the
negative. The plating is then "rubbed on" using the sponge. If the
work-piece is really clean, the silver goes on easily to any desired
thickness until the electrolyte is depleted. Then you re-soak the sponge
with fresh electrolyte and carry on.

The most important electrical parameter is the current. K9EYY used 50mA
from a 6V battery in series with a 10k pot. He specifically warns against
using lower currents because the plating does not adhere reliably. For the
same reason, do not allow the sponge to touch the work-piece without the
power supply connected.

The rubbing action helps to consolidate the coating. The harder you rub,
the better the plating seems to be.

Obviously you need a drip tray to catch the electrolyte as it runs off the
work-piece, but there is no need for an assortment of plating baths of
special shapes and sizes. This is a huge advantage if your main hobby is

amateur radio, not amateur electroplating!

You can also save silver by plating the inside of coaxial cavities etc but not the outside. To plate the inside of a long tube, connect the carbon rod to an insulated wire, and tape the rod onto a stick. It is important to waterproof any bare copper connections, to avoid creating unwanted electrolytic cells.

K9EYY also describes how to regenerate the used electrolyte by dipping the carbon rod into the container and using some silver item as the anode (connections reversed, current 75mA).

If anybody in Continental Europe is reading this, the same electroplating technique works even better using the "Anreibe-Silber" mixture which you can buy at hamfests in Germany. This proprietary mixture is a tamer version of the cyanide solutions that the professionals use, so although the quality of plating is excellent I would not recommend it for anybody who is not trained in chemical laboratory techniques.

Unfortunately neither of these processes will plate over tin-lead solder without an electrolytic pre-treatment using cyanide solutions. You have to either use hard solder or plate the individual parts before assembly.

Hope this helps, Allen - happy plating!

--
73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

10. Need VTO's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: tcmedlin@cris.com
Message-ID: <4c7egj$n3h@spectator.cris.com>
Source record: 108519

Does anyone know where i can find some inexpensive voltage tuned osc's? I have built several shortwave receiving converters to be used with the car radio. these have used crystals to date but i want to substitute the vto"s. vto's need to have outputs around 4-6 mhz, 6-8 mhz, etc or possibly a single one that would tune maybe 4-15 mhz or so. i am using a simple conversion and mixing this so output is connected to the car radios antenna and it is tuned to around 1000 khz.

the mixer is either a simple transistor or the ne-602.
thanks,
Tom Medlin, WA5KUB
email: tcmedlin@cris.com

11. Heathkit Active Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: joe@westonia.com
Message-ID: <DKH9CK.5ro@westonia.com>
Source record: 108520

I am repairing a Heathkit Active Antenna model HGD-1424-A

I need the replacement part numbers for the MOSFET and Transistor

417-290 MOSFET

417-931 Transistor

Thanks in Advance

* Joseph Cooper:-VE3FMQ-QTH-East York-near Toronto Ontario Canada *
* Interests are:- BCB and VLF Radio-Woodworking-Steam Railroads - *
* -Nikola Tesla-Antique Radios-Crystal Radios-Travel-Burmese Cats *
* FAX (416) 423-7782 9:00pm to 5:00pm EDST Monday To Friday Only *

12. Re: Mods for the Yaesu FRG-7 receiver needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: wayne ashcraft <ashccw@mailhost.onramp.net>
Message-ID: <4c7mfi$f5o@news.onramp.net>
Source record: 108521

You might want to try the radio mod section on my web page. I have three links there that might help. Look under AMATEUR RADIO section,radio mods at <http://rampages.onramp.net/~ashccw>.

wayne////N5UDE

13. Scheduler With Output Function

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: jrsmith@nitco.com
Message-ID: <4c7r6h$r2v@aegis.nitco.com>
Source record: 108522

I would like to know if the Creative Labs Soundblaster card, along with Scheduler, can be equipped with an output function. You know, to turn something on and off with.

If not, do you know where I can obtain such a card and software?

Thanks

Jim

14. TSCM Counter Surveillance, Privacy, & Security Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-01 00:00:00 UTC
From: jmatk@tscm.com
Message-ID: <jmatk-0101960843000001@jmatk.tiac.net>
Source record: 108523
Cross-posted to:
alt.law-enforcement,rec.radio.scanner,rec.radio.shortwave,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Happy New Year!!!!!

TSCM, Counter Surveillance and Debugging Page new materials... Check it out...

http://www.tscm.com/

Large section on TSCM test equipment
Large section on TSCM training and career paths

- James M. Atkinson "...shaken, not stirred"

15. FREE: Zenith Trans-O Model Nubmers vs. Features

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: Michael Neidich <neidich@interport.net>
Message-ID: <4caa4n$9t3@park.interport.net>
Source record: 108433

```
Request via email
73, K2ENN
```

16. C++ source for Smith Charts needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: Dave Nulton <dnult@axiom.net>
Message-ID: <4calgc$46v@atlas.axiom.net>
Source record: 108434

Are there any C++ programmers who know of source code to generate
and use a Smith Chart? I am aware that there are commercially
available packages (MicroSmith I believe is one) available, but
they are too inflexible for my needs. Basically I'm looking for
something I can pass a complex variable to and have the data
plot on a chart. Post or email responses.

73s
de KI5XW

dnult@axiom.net

17. Re: ECP/EPP bidirectional PC parallel ports

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: wagnerj@watt.oedison.com
Message-ID: <4cbgv1$l9i@watt.oedison.com>
Source record: 108435

>Johan Forrer (forrerj@ucs.orst.edu) wrote:
>: Hi all,

>: Does anyone perhaps know how to use/program the new ECP/EPP parallel
>: ports that one see nowadays on PC parallel interface cards?

>: I understand that they support the older nybble-based printer standard,
>: but in addition also support a full bidirectional interface, which of
>: course will make them that much more attractive for interfacing to
>: ham-radio projects.

>: Any information or pointers would be much appreciated.

>: --Johan Forrer, KC7WW

I just ran across the mother of all PC port interface pages:

http://www.paranoia.com/~filipg/HTML/LINK/PORTS/F_Parallel.html

There is info on Parallel, Serial, Joystick (analog), etc.

John Wagner wagnerj@watt.oedison.com

For Encrypted Mail: PGP Public Key Available upon Request

18. 23 cm cavity and VCO/PLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4cbri6$2mk@tempo.univ-lyon1.fr>
Source record: 108436

Hi everybody,
I am still looking for 23 cm cavities (in Europe)...
However -
For the VCO part, I need a 1297 MHz design. Using a standard (or even TCXO) reference oscillator, I can hardly expect better than a 10^-6 precision, that is 1 KHz. This is too much.
Therefore I though locking my PLL on a reference signal, like the WWV (DFL in fact here). Does anybody have already made this kind of job ?

I thought to lock a XO at 3 MHz and then use it to further control the VHF VCO.
Starting with a frequency (153 kHz) better than 10^-12, can I achieve a VCO with a similar stability (< 1 mHz) ?

Thanks for any info
Vince, F5RCS

19. Re: Scheduler With Output Function

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <4cbsk6$as2@vixen.cso.uiuc.edu>
Source record: 108437

jrsmith@nitco.com (James R. Smith) wrote:
>I would like to know if the Creative Labs Soundblaster card, along with
>Scheduler, can be equipped with an output function. You know, to turn
>something on and off with.

Use the parallel port.

20. HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: Edouard Elizee <elizee>
Message-ID: <4cc0i0$16lj@news.cuny.edu>
Source record: 108438

K9ZAT, thanks for the info on Amidon inc.
I need some more info and hope you or someone else will be able to help once again.
I am trying to assemble my own HF medium power amplifier. If you or anyone else have experience in that matter and is willing to give me a few tips, please do so.
I had some success in assembling audio amplifiers up to 50 watts, power supplies and low power HF circuits, but have not been able so far to put together a fairly powerfull RF amplifier.
Besides your own advices which are very welcome, I would like an answer to the following questions:
1- what power transistors are available today for power range of 100-400 watts and frequency range of 1Mhz-10Mhz? Are they bipolar or FET and how much do they cost approximately?
2- How much do you know about broadband transformers? It seems that every HF circuits I have seen uses heavily those types of transformers. Is there other alternatives?

21. Broadcast Radio Station Database Program

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: charles bolland <chuck@flinet.com>
Message-ID: <4cc0kk$tv@news.flinet.com>
Source record: 108439

Friends,

A couple of weeks ago I offered a Broadcast Radio Station Database that was a DEMO and only accepted up to 100 records. If you would like to receive a simular Database Program with more than 4,000 Broadcast Radio Station Records and the ability to accept an unlimited number of records, Please respone to this message and I will send it back via EMAIL.

Please include your name and mailing address as I must regeister each user. this information
will be kept confidential..

Chuck

KA4PRF

22. HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: Edouard Elizee <elizee>
Message-ID: <4cc0i6$m7e@news.cuny.edu>
Source record: 108440

K9ZAT, thanks for the info on Amidon inc.
I need some more info and hope you or someone else will be able to help once again.
I am trying to assemble my own HF medium power amplifier. If you or anyone else have experience in that matter and is willing to give me a few tips, please do so.
I had some success in assembling audio amplifiers up to 50 watts, power supplies and low power HF circuits, but have not been able so far to put together a fairly powerfull RF amplifier.
Besides your own advices which are very welcome, I would like an answer to the following questions:
1- what power transistors are available today for power range of 100-400 watts and frequency range of 1Mhz-10Mhz? Are they bipolar or FET and how much do they cost approximately?
2- How much do you know about broadband transformers? It seems that every HF circuits I have seen uses heavily those types of transformers. Is there other alternatives?

23. Need AA-size dummy cell/bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDKKss7.L9K@netcom.com>
Source record: 108441

I'm looking for a source of dummy cells, AA size. These would be used when (for example) you want to use 6 alkaline (1.5V) cells in lieu of 7 nicad (1.2V) cells and need to bypass one of the cells in a way that's mechanically sound. Has anyone seen these for sale anywhere?

73 Dave WB0GAZ dgf@netcom.com

24. Re: HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <820613191.12472@pinetree.microserve.com>
Source record: 108442

Edouard Elizee <elizee> wrote:

>I am trying to assemble my own HF medium power amplifier.

You might want to contact R.F. Electronics. They sell amplifier kits with power ratings of 300, 600 and 1,200 watts. You can buy them as kits or assembled, or just buy certain parts. For example, they list the PC board with parts list and instructions for $25.00 (300W). The 600W amplifier uses two boards ($45.00); the 1,200W uses four ($85.00). They also sell the various size heat sinks, 5-pole Chebyshev filter kit ($40.00 - covers 160, 80, 40, 20, 15 & 10M), and other parts.

I haven't done business with this company myself, but you can reach them at:

R.F. Electronics
Lee Martin KD4YBC
197 Chickasaw Lane
Myrtle Beach, SC 29577
(803) 236-2640 (10:00AM-9:00PM EST)

73,
Jack WB3U

25. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: John Wilcox/NS1Z <ns1z@rumford.agate.net>
Message-ID: <4ccgnl$kav@service-2.agate.net>
Source record: 108443

I built the kit and was quite impressed with it. Works as advertised and
only glitch was inserted by myself. It is now installed in the Jimmy
under the IC-706 and working against a mobile 4 band Hustler style
antenna on the rear bumper. What's the big deal, haven't seen anyone
complain about Yaesu, Kenwood or Icom not giving their stuff away.....
--
John Wilcox / NS1Z
44.118.6.4
ns1z@ns1z.ampr.org
204.117.6.48
ns1z@rumford.agate.net

ns1z @ kb1bsc.fn44rn.me.usa.noam

26. Mid-Atlantic Hamfests

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: cps@access.digex.net
Message-ID: <cps-0201961822340001@bab00110.slip.digex.net>
Source record: 108444
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

I used to keep a schedule online of upcoming hamfests in the Mid-Atlantic
(roughly Northern Virginia to New York) area. I'd like to do the same
thing this upcoming hamfest season.

I would appreciate it if anyone who knows of an upcoming hamfest would
email me with the details, and I'll add it to the list.

Even though hamfest season is still some time away, it's never too early
to start!

Thanks,

Chris N3JLY

--

|Check out my WWW page at http://www.access.digex.net/~cps/ for scientific |
|software for the Mac, Free Radio, Shortwave Radio, and Spy Numbers Stations |
|information. |
|Finger me (cps@access.digex.net) for my PGP Public Key |
---

27. !SUPER KEYER II - MYSTERY

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.7302.546@acenet.com>
Source record: 108445

Many thanks for the tip, Tom.
I have the older Super Keyer, and I bet it does the same!
I rarely use the hand keyer mode, but I use the "Press 2 & 4"
method to tune up the antenna tuner.

TA> SOLVED!

TA> I built the now superseded CMOS SUPER KEYER II from the Nov.
TA>1990 issue of QST. I use it with a Bencher paddle and have been very
TA>pleased with its operation with the exception that occasionally it
TA>seemed to discharge the batteries pre-maturely.

TA> I have checked the battery drain several times in the past to
TA>confirm that the micro controller was in fact going into the power
TA>down sleep mode when left idle. Each time I did this test was after
TA>replacing the batteries and I observed the drain fall off to a few
TA>microamperes a few seconds after connecting the the new battery.
TA>Of course in the process of changing the battery I reset the
TA>controller and did the test in the normal power up keyer mode.
TA>Everything appeared fine and I remained mystified.

TA> Finally I discovered the cause. I had been away on a trip for
TA>five weeks and had just put in a new set of batteries prior to
TA>departure. Upon returning I found the batteries (3 AA alkaline cells,
TA>BTW) discharged. I remembered last using the keyer in the hand key mode
TA>for finalizing my ladder line antenna tuner adjustment (conveniently
TA>done with momentary ~key down~ in the hand key mode). I had left the
TA>SUPER KEYER in the HAND KEY mode.

TA> I have found that my SUPER KEYER II does not switch into power
TA>down when it is left in the HAND KEY mode. I wonder if anyone
TA>else has identified this in the past or if anyone knows of a change of
TA>firmware in later chips that corrected this bug? I wonder if the new
TA>version III has a similar problem?

TA>73 de VE7TMA

TA>---
TA> * QMPro 1.53 * Very Best Regards, tom.alldread@minfox.com
---

 SLMR 2.1a

28. CMOS SUPERKEYER II CURRENTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-02 00:00:00 UTC
From: tom.alldread@minfox.com
Message-ID: <9601031820348672@minfox.com>
Source record: 108446

Greetings:

Further to earlier post on this subject I have recorded the
current drawn by my CMOS SUPERKEYER II in various modes.

I connected a digital mA meter in series with my keyer
battery to measure the current drain and the following is the
test results (with the sidetone monitor speaker turned off):

KEYER MODE SENDING DASHES: 3.35 milli Amperes
KEYER MODE SENDING DITS: 3.22 milli Amperes
KEYER MODE IDLE-FIRST 3 SECS: 2.64 milli Amperes
KEYER MODE IDLE-AFTER 5 SECS: 0.9 micro Amperes
(IE: 0.0009 milli Amperes)
HAND KEY MODE - KEY DOWN 3.45 milli Amperes
HAND KEY MODE - KEY UP 2.53 milli Amperes continuous
FUNCTION MODE 2.61 milli Amperes continuous
TRANSMIT TUNE 3.19 milli Amperes continuous
? INTERROGATE MODE 2.72 milli Amperes continuous

With the monitor speaker on in the ~hand key~ mode and key down
the current increased to 18.45 milli Amperes.

As shown the only time my keyer will go into its power down
sequence is when it is in the regular ~keyer~ mode.

Generally the CMOS SUPERKEYER II has served me very well and I
am pleased with it. Now that I am aware of its power down
characteristics I will be careful to ensure that I leave it in the
~keyer mode~ when not in use to preserve the battery life.

In the event that a new version of firmware is written
possibly a suitable watch dog timer could be incorporated to kick the
keyer out of the special modes after an appropriate delay. To
help preserve battery longevity for those that regularly use the keyer
in the ~hand key~ mode possibly a second power down sleep sequence could
also be provided for that mode of operation.

It would be interesting to hear from others that make similar
power drain measurements on their CMOS SUPERKEYER II keyers to determine
if the characteristics were improved in later versions. Mine is probably
has the first firmware release as I built it shortly after the article
was published in November 1990 QST.

73 de VE7TMA

---
* QMPro 1.53 * Very Best Regards, tom.alldread@minfox.com

29. Re: Need AA-size dummy cell/bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4cciv7$sd3@nntp.Stanford.EDU>
Source record: 108447

In article <dgfDKKss7.L9K@netcom.com> dgf@netcom.com (David Feldman) writes:
>I'm looking for a source of dummy cells, AA size. These would be used when
>(for example) you want to use 6 alkaline (1.5V) cells in lieu of 7 nicad
>(1.2V) cells and need to bypass one of the cells in a way that's mechanically
>sound. Has anyone seen these for sale anywhere?
>
>73 Dave WB0GAZ dgf@netcom.com

I just cut the head off an old steel bolt or cut a length of brass rod
stock whenever I wanted to do this. Some heat shrink around the rod
keeps things insulated if needed.

Steve Muther WF6R

stevem@w6yx.stanford.edu

30. ATV CAMERA CONNECTIONS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: gulseth@spk.hp.com
Message-ID: <4cchsd$79s@hpcvsnz.cv.hp.com>
Source record: 108448

Hello All,

If I have posted this to the wrong newsgroup, please don't flame me - I am new at this!

I have an older video camera left over from the family entertainment center which another local ham wants to use for ATV work. The camera is (for reference) a Minolta K-520S, and is the kind with the cord which connects to a separate VHS tape deck. The connector is ten pins.

I understand that the above connector arrangement was "semi-standard" for this sort of camera. Does anyone have information on the pinout for this camera, or know where I could find same?

Please reply to me at gulseth@spk.hp.com. Thanks to all!

73 DE W7LEJ - Marty Gulseth, Spokane, WA

31. HELP!! Ham Needs WR-42 Waveguide Components

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: "Neil A. Gjere" <ngjere@skypoint.com>
Message-ID: <4cep1r$jog@stratus.skypoint.net>
Source record: 108449
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.engr.television.broadcast

I am in desperate need of a 50 or 60 db WR-42 fixed Waveguide attenuator as well as a 0 to 40 or 50 db WR-42 variable Waveguide attenuator.

These are being used to set up some 18 Ghz Microwave Radios. My usual source for these type of components has gotten out of the as they put it, "Plumbing Business"

I only need them for a short period of time, I will pay for shipping in both directions and will reward you both financially and with unending gratitude!!!

Please respond via:
ngjere@ktca.org

73s
Neil A. Gjere
N0PFZ

32. Re: Sending digital data on 27/49Mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: TSJV87A@prodigy.com
Message-ID: <4ccq45$2d26@usenetp1.news.prodigy.com>
Source record: 108450

If this device is being used in the Amateur Radio Service there is frequencies in the 6 meter band reserved for radio control aircraft (if that is what you are doing). Also check frequency listings for garage door opener and etc freqencies (up about 300mhz)

-
ERNIE TSJV87A@prodigy.com (K3VVV)

33. Re: Mid-Atlantic Hamfests

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: jtriolo@mci.newscorp.com
Message-ID: <4cd3q4$j5i@merlin.delphi.com>
Source record: 108451
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,sci.electronics

cps@access.digex.net (Chris Smolinski) wrote:

>I used to keep a schedule online of upcoming hamfests in the Mid-Atlantic
>(roughly Northern Virginia to New York) area. I'd like to do the same
>thing this upcoming hamfest season.

>I would appreciate it if anyone who knows of an upcoming hamfest would
>email me with the details, and I'll add it to the list.

>Even though hamfest season is still some time away, it's never too early
>to start!

Well...about 90 miles south of Metro DC is the annual Frostfest in
Richmond.

Held at the Showplace...3000 Mechanicsville Tpk, Richmond, VA
Sunday, 1/21/96 from 8:30 to 3:30.

Take I-95 south to I-64 East (Exit 75) to US 360 East (Exit 192).
Showplace is 1/2 mile on the left.
Parking is free, admission is $5.00. No discounts for advance tickets.
Licensing exams are usually conducted the day before. Not sure what is
planned for this year.

Info is available through the voice mail service of the Richmond
Amateur Telecommunications Society at 804/739-2269. Enter box number
3378 (FEST) for general information and table reservations.

Major retailers are expected there (most notably HRO, but there are
many others), a number of manufacturers (not sure who has committed
yet), and ample flea market space. Computer vendors will also be
there.

Hope to see you there!

E-Mail me if you need more info.
73 de Jason, KD4ACG
jtriolo@mci.newscorp.com

34. Looking for crystal controlled transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: oguma@super.win.or.jp
Message-ID: <4cd41b$mg@super.win.or.jp>
Source record: 108452

I would really like to find transmitter.
If possible,it is crytal controlled one and batteryis supplied with AC.

Because...

There are a few types,so we can easily find it bug.

Could you tell me the fax number or E-mail address of the shop ?
Thanks much!

Akihiro Oguma

oguma@super.win.or.jp

35. Re: ATV CAMERA CONNECTIONS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4cd5jq$263@nntp.Stanford.EDU>
Source record: 108453

In article <4cchsd$79s@hpcvsnz.cv.hp.com> gulseth@spk.hp.com (Marty Gulseth) writes:
>Hello All,
>
>If I have posted this to the wrong newsgroup, please don't flame me - I
>am new at this!
>
>I have an older video camera left over from the family entertainment
>center which another local ham wants to use for ATV work. The camera is
>(for reference) a Minolta K-520S, and is the kind with the cord which
>connects to a separate VHS tape deck. The connector is ten pins.
>
>I understand that the above connector arrangement was "semi-standard" for
>this sort of camera. Does anyone have information on the pinout for this
>camera, or know where I could find same?
>
>Please reply to me at gulseth@spk.hp.com. Thanks to all!
>
>73 DE W7LEJ - Marty Gulseth, Spokane, WA
>

PIN Function
1 Camera Video Out
2 Camera Video GND
3 View Finder Video In
4 View Finder Video GND
5 NC
6 Pause Control Out (Useful for TX Control)
7 Camera Audio Out
8 Camera Audio GND
9 DC GND
10 +12V Power

This is the pinout for my Sony 10 pin camera. It is somewhat standard.
A volt or two superimposed on the viewfinder video in line switches
the viewfinder from internal (camera) video to external (tape machine)
video for playback.

MCM Electronics has the 10pin female connectors if you are rolling
your own power supply/interface. 800-543-4330

36. Re: HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4cdpm9$p61@tempo.univ-lyon1.fr>
Source record: 108454

WB3U (jackl@pinetree.microserve.com) wrote:
: Edouard Elizee <elizee> wrote:
: >I am trying to assemble my own HF medium power amplifier.
: You might want to contact R.F. Electronics. They sell amplifier kits
: with power ratings of 300, 600 and 1,200 watts. You can buy them as

HI. You call a 300 W amplifier "medium power" ?
It is already more than we are authorized here ! (in France : 250 W max.)

Just frightened :-)
Vince, F5RCS

37. Re: Test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <4ce9i4$4d9@alpha.pcix.com>
Source record: 108455

```
> Test
Test received, and this is a test to see if I know how to Follow-Up.
Tnx de daveaa1a@pcix.com
```

38. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: smason@agt.net
Message-ID: <30eab764.4581982@news.agt.net>
Source record: 108456

On 2 Jan 1996 23:56:36 GMT, John Wilcox/NS1Z <ns1z@rumford.agate.net> wrote:

:>I built the kit and was quite impressed with it. Works as advertised and
:>only glitch was inserted by myself. It is now installed in the Jimmy
:>under the IC-706 and working against a mobile 4 band Hustler style
>antenna on the rear bumper. What's the big deal, haven't seen anyone
>complain about Yaesu, Kenwood or Icom not giving their stuff away.....

I missed the start of this thread, which QST was this in?

Thanks,

Steve VE6STV

39. Test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: rjg@intac.com
Message-ID: <30ea8238.2644951@news.intac.com>
Source record: 108457

```
Test
```

40. Re: Need AA-size dummy cell/bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: Jim Strohm <"Jim Strohm"@ausq1ak>
Message-ID: <4ce7f0$gu2@newsgate.sps.mot.com>
Source record: 108458

Wrap a dead AA cell in tinfoil, and insulate with masking tape if necessary. Can't get much cheaper and simpler thna that.

41. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: griffithj@ricks.edu
Message-ID: <DKMBDx.oB@ricks.edu>
Source record: 108459

In article <4c6es2$394@mgate.arrl.org>, ehare@arrl.org says...
>
>griffithj@ricks.edu (James Griffith) wrote:
>
>>>QST is sold at most major news stands and magazine racks now. You might
>>want to try that. The artical is not that big a deal. It's an
>>advertisment so its writer can make money. It would be difficult to
>>duplicate without buying their kit. QST is going same way Popular
>>Electroncs went years ago, selling kits with articles.
>
>Hello, Jim,
>
>I don't kwow if I would go *that* far. First, ARRL doesn't sell the
>kits; the authors do. From the feedback we have received from readers,
>most readers *prefer* construction articles that have kits. And, in most
>cases, even if a construction project has a kit, the builder can still
>dead-bug it, if he or she chooses. This tuner article is almost an
>exception to the rule, in that it requires a part that is available only
>from the author. However, the author will gladly sell the
>progrmammed IC only for those who want to locate all the other
>parts themselves. (I wonder if *anyone* will take him up on the
>offer; I want the kit! :-)).
>
>
>>
>
>I don't mean to sound like a "wet blanket", and I don't know your age, mine is 52. But, I remember the exciting time when, with almost nothing at all, one could get on the air with something he or she built. Or, if you were intrested in just building an electronic project from Ppopular Electronics, you were able, because at the age of 12 or 13 you didn't have the money to by that one part that could only be bought from that special place, who ever or were ever it might be.

Have you ever longed to build something electronic at the age of 12 or so, and had no money, but the author gave you a way to do in in the article, like the code for the chip, or the turns count and size of the coil.

I believe,(This is only me talking.) and I am a member of ARRL and you have published 2 very popular articles I wrote, at least my fan mail said so, that QST is no longer a member publication devoted to ham radio, FOR THE LOVE OF IT, but has gone into business, targeting those people who

would buy more magazines, (Your on the news stand now.) books, and other offers the ARRL has, and has geared it QST publication toward them.

Who are those people, (Me talking again.) thay are people who never grew up in ham radio scrounging a part or a who rig full of parts to get on the air, and if the truth be known, computer have the interest of the young people, not ham radio. I can talk any were in the world on internet who needs a radio.

Those are the people targeted by QST. We all see the QRP articales, about the only rig that can be built any more, if one can find a variable capacitor. Have you even seen a dealer advertise a line of variable capacitors in QST or any were elce. I have been in hard electronic repair for 35 years, and I can fix hundreds of things not made anymore, or will never be made again. Why, becasue it all gone to software, and QST won't publish it so we can use are new skills and try and program our EPROM or processor chip, we have to buy it, just like Popular Electronics.

When is the last time we saw a 75 watt Novice rig in QST built and presented by the ARRL lab. Packet is the revolution for those with interest in computers. I can use computers, and repair them, thank you. I tried packet and sold it. My time is better spent on something that is real time then waiting on the postman.

I, and people like me, are no longer the interest of the ARRL, or QST. I love ham radio. It has gotten me good jobs from the skills it has given me. I have talked to lots of people. Years ago thay all built something, today most do not even own a good soldering iron. QST know that. I, and the 12 and 13 year olds are no longer the target, the kit builder, and the buyer of new equipment is because there in no money in me and a 12 year old. There never has been any money in me and my kind in ham radio because we build from parts, which there is no money in.

We are the ones that some QST articles have made fun of because we see a good deal in a broken radio, and can fix it, or see the value in a pile of junk that know one elce can recognize, and are no longer recongnized by QST.

That is why the missing chip code to the ATU article is importent. Not because you can build the unit by odering the part, but because you can not say, on the air, I programed the chip myself from and article in QST.

42. Need headphone switching circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: jttravis@iamerica.net
Message-ID: <jttravis-0301961533250001@ias_ppp0103.iamerica.net>
Source record: 108460

Hi, I need help designing a simple circuit. I have two audio outs (A and B). A is stereo and primary, B is infrequently used. I'd like a circuit that would allow me to plug in one set of earphones and monitor A, but when B comes on to switch to it then back when B is silent - it could be to just one channel of the headphones to simplify.

I'd like it to be self powered.

Thanks in advance.
KC5DWU

--
J.T.Travis | jttravis@iamerica.net
'93 EX-500

43. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: lelanda@atcon.COM
Message-ID: <199601031725.NAA26149@loki.atcon.com>
Source record: 108461

```
unsub lelanda@atcon.com
Lee Anderson.
```

44. Low Noise Linear Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-0301961356490001@squaw-d121.sierra.net>
Source record: 108462

Recent postings about the 723 et al looking for low noise regulators, prompted me to go back into the databooks.

Looking at the National specs for the LM723, while RMS noise is specified, it is only spec'd as typical, with no maximum.

The Motorola databook for their TL431 claims low noise, and even gives a Noise Spectral Density graph, but nowhere do they actually specify even the typical noise characteristics, much less the max values.

On the other hand, the National LM369 series of precision references is fully spec'd and guaranteed 30 microVolts RMS maximum, typically 10 microVolts, unfiltered. Adding a .1uF film cap brings it down to 4 microVolts, and more is better, up to 1uF. Also, the LM369 has ppm stability for line, load and tempco.

Unless there is hard data that no 723 exceeds their typical noise spec, ever, my money will continue to go with the LM369, though it is more expensive and dictates a discrete design to the regulator, for low current demand oscillators, a 30 milliampere buffer is a trivial exercise...

Bob T

45. Re: Low Noise Linear Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-03 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4cf4hd$lrb@abyss.West.Sun.COM>
Source record: 108463

In article <rst-0301961356490001@squaw-d121.sierra.net>,
Bob T. <rst@tetrault.com> wrote:
>Recent postings about the 723 et al looking for low noise regulators,
>prompted me to go back into the databooks.
>
>Looking at the National specs for the LM723, while RMS noise is specified,
>it is only spec'd as typical, with no maximum.
>
>The Motorola databook for their TL431 claims low noise, and even gives a
>Noise Spectral Density graph, but nowhere do they actually specify even
>the typical noise characteristics, much less the max values.
>
>On the other hand, the National LM369 series of precision references is
>fully spec'd and guaranteed 30 microVolts RMS maximum, typically 10
>microVolts, unfiltered. Adding a .1uF film cap brings it down to 4
>microVolts, and more is better, up to 1uF. Also, the LM369 has ppm
>stability for line, load and tempco.
>
>Unless there is hard data that no 723 exceeds their typical noise spec,
>ever, my money will continue to go with the LM369, though it is more
>expensive and dictates a discrete design to the regulator, for low current
>demand oscillators, a 30 milliampere buffer is a trivial exercise...

How much noise would a 30mA buffer contribute to the LM369 output?
Is the LM723 spec taken using the integral pass transistor?

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

46. Converting Cellular to 902MHZ band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: TSJV87A@prodigy.com
Message-ID: <4cf7kg$l7s@usenetp1.news.prodigy.com>
Source record: 108374

rec.radio.amateur.homebrew
[1] Converting Cellular to 902MHZ band
TSJV87A@prodigy.com

Does anyone have any advice, recomendations, information or pointers to
information on converting cellular telephone equipment to the 902 MHZ
amateur band? Is it possible? Post or Email me at TSJV87A@prodigy.com.
Thank You Very Much.

-
ERNIE TSJV87A@prodigy.com

47. Re: Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDKMspn.J0u@netcom.com>
Source record: 108375

In article <4cf5k1$4dd@service-2.agate.net> John Wilcox/NS1Z <ns1z@rumford.agate.net>
writes:
>Was talking with my buddy this evening on the subject of buying and
>selling home brew gear. It was my opinion that home brew gear took such a
...
>world? What would make a piece of HB gear more valuable to the astute
>buyer?

I have bought several homebrew amplifiers. Usually projects derived from
publications (my interest is in VHF/UHF high power amps). In this case there
is little alternative to homebrew. Power amps are simple enough you can
visually tell the condition (except for tubes), and it's not too hard to
figure out the value of parts and labor and get documentation (in the form
of original publications). A project faithfully built to published docs
(such as a K2RIW amplifier) I think is worth a good price.

Homebrew solid state gear has for me generally been a disappointment and I
tend to avoid it unless it's a specialty for me (tiny QRP, etc., again with
some related documentation).

I _always_ avoid "homebrew" computers and related parts - too hard to know
if it's working without GOOD recourse.

73 Dave WB0GAZ dgf@netcom.com
>
>--
>John Wilcox / NS1Z
>44.118.6.4
>ns1z@ns1z.ampr.org
>204.117.6.48
>ns1z@rumford.agate.net
>
>ns1z @ kb1bsc.fn44rn.me.usa.noam
>
>

48. PCB for RF and linear ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <137cc$16cf.282@news.ak.net>
Source record: 108376
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Hello,

I bought a few years ago LAYO. I followed (and paid a lot) every upgrade. Today I think I made a wrong choice. The evolution of this product is poor. It's very borring to use because you have to translate between two products (one product for drawing and another for design PCB). For linear circuits with ground plane... I stop here, it's become incredible !

1) I have linear and RF circuit to design : Is there a freeware, I can download to quickly do my work ?

2) Is there an interesting product ? (with a concurrential offer ?)

Thanks for help
Email opworld@worldnet.fr

Happy
New opworld@worldnet.fr
Year

49. Need POS150 VCO spec's or quality VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <137cc$16c35.2f5@news.ak.net>
Source record: 108377
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,sci.electronics.components

Hi,

Looking for POS150 spec's. It's a VCO.

All informations about VCO for 80-110 frequencies with very low
distortion and low harmonics are welcome.

Happy
New opworld@worldnet.fr
Year

50. Re: 14.230 MHz receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4cfi1c$bt6@newshost.lanl.gov>
Source record: 108378

Shawn, as I recall the Bearcat 210, it is an FM-only receiver, as is the RatShack Weatheradio, rendering either useless for your purpose of receiving SSTV.
A simple direct conversion (DC) receiver would be a better low cost solution. Ramsey Electronics' model HR-20 is a 20 meter DC receiver kit for 30 bucks that should do the trick for you. Of course you might be able to buy a used older receiver at a swapfest too. What you want is a receiver that will receive SSB and CW to get the SSTV you need. Some (few) scanners have SSB/CW capability but they aren't cheap. Digital receivers such as the Sony 2010 and similar, Uniden 2026, Radio Shack DX-440, Sangean ATS-803 etc all have this function as well as many others of course and for much more than 30 bucks.
I have no connection at all with Ramsey except that of an occasional customer.
If you have access to Radio-Electronics, 73, QST back issues at a local library there are occasional articles for circuits similar to the Ramsey kit using the NE602 converter IC. Most recent ARRL handbooks present simple similar circuits that can be easily modified to suit your needs.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

51. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4cglbb$m5l@newsbf02.news.aol.com>
Source record: 108379

>I built the kit and was quite impressed with it. Works as advertised and
>only glitch was inserted by myself. It is now installed in the Jimmy
>under the IC-706 and working against a mobile 4 band Hustler style
>antenna on the rear bumper. What's the big deal, haven't seen anyone
>complain about Yaesu, Kenwood or Icom not giving their stuff away.....
>

Hi,

I'm curious how the software works. Does it just change something at
random and see what happens, and if SWR gets better keep going in that
direction?

If you make a large load or band change how long does it take to tune?

73 Tom

52. Re: Need POS150 VCO spec's or quality VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.13.001470AD@azstarnet.com>
Source record: 108380
Cross-posted to: sci.electronics,rec.radio.amateur.homebrew,sci.electronics.components

In article <137cc$16c35.2f5@news.ak.net> opworld@worldnet.fr (Hello) writes:
>From: opworld@worldnet.fr (Hello)
>Subject: Need POS150 VCO spec's or quality VCO
>Date: Thu, 04 Jan 1996 03:10:20 GMT

>Hi,

>Looking for POS150 spec's. It's a VCO.

>All informations about VCO for 80-110 frequencies with very low
>distortion and low harmonics are welcome.

The POS-150 is a MiniCircuits part number. I don't have a data sheet here at home, so I can't immediately quote the specs. It's almost impossible to subscribe to an electronics trade journal in the US and NOT have a MiniCircuits catalog, tho.

If you can't find it elsewhere, email and I will look it up for you.

73, Wes -- N7WS

>Happy >New opworld@worldnet.fr>Year

53. HTX-202, HTX-404 ext mic mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: SJJK62A@prodigy.com
Message-ID: <4cg2ir$t6i@useneta1.news.prodigy.com>
Source record: 108381

There is a mod that will overcome the weak ext mic audio problem
of the HTX -202 and 404 rigs. Check out:
http://pages.prodigy.com/CA/LA/htx202htx404/htx202htx404.html

54. Design for a 1W PA for 1296MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Danie Brynard <danie.brynard@pixie.co.za>
Message-ID: <4cg887$15f@hawk.pix.za>
Source record: 108382

Hi

I am looking for a design or references to a design for a PA of
about 1W for my 1296MHz transverter.

danie zs6awk

55. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ch1v1$qi1@hpcvsnz.cv.hp.com>
Source record: 108383

Gary@Techstds.al.bst.bls.com wrote:

: I have been contemplating, for a few years, a home-brew ATU. Coincidentally,
: I planned to use the Motorola 68HC11 micro-controller chip, just like the one
: in QST, because I have the development board for it.

: The stimulating exercize, in my opinion, is developing the algorithm to
: iterate to the match (with the L network, there's only one). I had thought
: that both the phase and magnitude of the impedance (seen by the ATU) would be
: needed to drive the iteration routine for both the capacitance and inductance.

Over 25 years ago, I worked on the Collins 490T antenna tuner when I was in the Navy. That box will tune a "random wire" antenna pretty much anywhere in the 2-30MHz range. It has no processor: it uses a rather small array of silicon controlled switches to sequence through its procedure. It is rated to tune a new load within 5 seconds, but our rule of thumb was that if it took over a second and a half, it likely had a problem. It used motor-driven vacuum variables and inductors. It did have both phase and SWR sensors. Anyway, the point is that you don't really need a processor to accomplish the tuning procedure, though that's probably the easiest way to do it these days. But clearly, in the case of the 490T, the algorithm wasn't terribly complex, and AT LEAST there should be no reason for not providing plenty of detail about the procedure, if not the code itself.

: So, when I saw the article, the first thing I looked for was the source code.
: When I saw that it wasn't available, I was no longer interested.

(Moved from the beginning of Gary's post...)
: Excellent comments. I, too, am one of those people who grew up scrounging
: parts from old TV's and radios. I enjoy thinking about, planning, obtaining
: parts for, and building things much more than operating them.

Me too. In fact, I still have no trouble scrounging all the parts I would need to do any of the basics of getting on the air, though I'm also interested in playing with things like DSPs, and I'm willing to pay for inexpensive evaluation boards that provide assemblers and similar tools.

But on the other side of the coin: I sometimes get printed circuit boards that are loaded with parts that would be quite useful to someone homebrewing RF or audio equipment. I've found that I have trouble even _giving_ these things away. My conclusion is that there must just not be _that_ many people experimenting with electronics and homebrewing things, or else all those that are are getting all the free parts they need.

--
Cheers,

Tom
tomb@lsid.hp.com

56. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4ch6fi$hr7@ixnews8.ix.netcom.com>
Source record: 108384

In <4ccgnl$kav@service-2.agate.net> John Wilcox/NS1Z
<ns1z@rumford.agate.net> writes:

>...What's the big deal, haven't seen anyone
>complain about Yaesu, Kenwood or Icom not giving their stuff away.....

The "big deal" to some of us is that the tuner was presented in a build-it-yourself article, not in a product review. It's disengenuous to publish a schematic for the whole world to see and at the same time decide the source code must be kept secret. In fact, some magazines require that source code be made available, via BBS or other methods. The greatest value in DIY articles is probably not in the constructing of exact clones, but in seeing how somebody else solved a problem, and in providing a starting point for trying something new. Many people might be interested in trying a similar circuit with a different micro installed, or in running the tuner from a PC, just as others would use different relays or other components. However, with the micro presented as a black box, we learn nothing of how the device works. We are presented with a hardware schematic but not with a software schematic. For those who say that it's unlikely that anbody would program their own chip, I'd just say look at the number of assemblers, compilers and programming devices on the market, compared to, say, the number of sources for toroid cores. The ability is there.

I believe one of the authors has written that they did offer a detailed flowchart when they submitted their article, but QST chose not to print it. If that is the case then I think the authors are partially exonerated and QST is partially to blame. As I said, if they wanted to do a product review they should have called it a product review.

73,
Mike, KK6GM

57. "Shooter" EPROMMER

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: artus@sound.net
Message-ID: <4cglm3$qho@guitar.sound.net>
Source record: 108385

I have a Prompro PP4 (SN 5278) Shooter programmer, but no configurator chips. Does anyone know how these chips work? I assume they may just be shorting jumpers for the various PROMs. I've dropped a couple EMails to Logical Devices but no response. Thanks.

58. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: mark@reson.com
Message-ID: <4cgb3t$cqg@daffy.sb.west.net>
Source record: 108386
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

opworld@worldnet.fr (Hello) wrote:

>Is there a remplacement for this chips ?

You might try the LM1496 from National Semiconductor. According to a
new parts catalog, it is still available from National Semiconductor.

-
Mark Chun | mark@reson.com | Santa Barbara, CA

59. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Gary@Techstds.al.bst.bls.com
Message-ID: <NEWTNews.820779591.22006.Gary@Techstds.al.bst.bls.com>
Source record: 108387

>
> That is why the missing chip code to the ATU article is importent. Not
> because you can build the unit by odering the part, but because you can
> not say, on the air, I programed the chip myself from and article in QST.
>
>
>
Excellent comments. I, too, am one of those people who grew up scrounging parts from old TV's and radios. I enjoy thinking about, planning, obtaining parts for, and building things much more than operating them.

I have been contemplating, for a few years, a home-brew ATU. Coincidentally, I planned to use the Motorola 68HC11 micro-controller chip, just like the one in QST, because I have the development board for it.

The stimulating exercize, in my opinion, is developing the algorithm to iterate to the match (with the L network, there's only one). I had thought that both the phase and magnitude of the impedance (seen by the ATU) would be needed to drive the iteration routine for both the capacitance and inductance. Not having the 6811 source code, I don't know how the ATU in the article works, but it looks like only the SWR is used. One can only guess that a 'brute-force' search is used until an acceptable value of SWR is found.

So, when I saw the article, the first thing I looked for was the source code. When I saw that it wasn't available, I was no longer interested.

KO4CY

60. Re: MICRO BREWERY GEAR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: langlois@alex.ecs.umass.edu
Message-ID: <4che93$g1h@risky.ecs.umass.edu>
Source record: 108388

Dave Heyliger (heyliger@rockmedia.com) wrote:
: FOR SALE: COMPLETE NEW 7 BARREL BREWERY MANUFACTURED BY INN BREWING OF

<snip>

How much transmit power does this setup have? :)

Phil, NC1J
--

_____
Philip M. Langlois (langlois@alex.ecs.umass.edu)
Research Engineer

61. Ham Gods: interesting questions on the nature of Hetrodyning/Spectrum Analyser guts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: fj91@dial.pipex.com
Message-ID: <4chl02$1te@soap.news.pipex.net>
Source record: 108389

Hi -

Our company is looking at producing an inexpensive Spectrum Analyser, from as near DC as we can get :) to 1GHz or so. I'm from a digital background, but I've studied the necessary techniques as carefully as I can. But there are many things that are mysterious to me, Gods of Ham Out There.

Things I know:

* We need to use hetrodyning for the same reasons as radios
* We may need to have multiple mixer 'channels' to deal with the enormous frequency range, as varactor-tuned VCOs have limited range
* We can use multiple IF stages, subsequent ones 'tuning in the previous stage's bandwidth' with decreasing IF filter bandwidth as we go
* There exists nice cheap mixers like the NE602 and the NE600
* There exists nice cheap 10.7Mhz ceramic filters with 50kHz bandwidth (hurrah)
* There exists nice cheap 455kHz 'IF Can' filters with 4kHz bandwidth (hurrah)
* The selected IF (which depends on desired bandwidth) goes to a log amp and a detector, followed by an A-D convertor in our case

Top three things I don't know and would like pointers on :)

* If I feed the same frequency sine wave to the RF and LO sides of a mixer, I know I get double the frequency (ie, the second harmonic). But the rules of mixing seem to indicate I will also get some kind of component at DC, ie f+f=2f, and then f-f=0. Assuming you are not already choking on your beer with laughter at this newbie blunder, why then does one need a detector? Why can't I run the LO at the frequency I'm interested in, slug the mixer output with some brutal filter that suffocates anything past a few Hz and accept the result as reflecting the RF energy at the frequency of interest? (is it 'cos the output of the mixer is

AC-coupled internal to the mixer? :( ) I really really _really_ wish I could do this, because then I end up with a tracking generator for free.

* My evil, cunning plan for generating DC-1280MHz via my evil, cunning version of DDS involves a fixed frequency divider chain starting at 640MHz (it divides by two each time). From 160MHz down, I see I can do this with 74AC74s or whatever, with a filter to kill the harmonics in the resultant 'digital-style' edges. However, how can one divide 640MHz and 320MHz by 2? Not with anything beginning 74, for sure :(. I have an alternative 'plan B' proposal: start the chain at the 74AC-friendly 160MHz, and use the mix-the-same-signal frequency-doubling techniuqe to synthesize 320 and 640Mhz. However, the division from a single 640MHz frequency 'Mecca' sounds like it should be more accurate.

* A mixer like the NE600 claims only to work from 800MHz to 1200MHz. The otherwise helpful Philips data acts as if DC-799.999999Mhz are the work of the Devil, and no self-respecting cellphone designer would want to know about them. However, Philips, we are not all designing cellphones out here! Does anyone have an opinion as to whether, the evil DDS technology notwithstanding, I can use a single NE600 to cover my range of ~DC to 1.2GHz?

Gods of Ham: I salute you for reading these humble puzzlements. If you know things, please spare a moment to send this sinner on to the path of righteousness.

-Andy

62. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: "C. J. Hawley Jr." <hawley@aries.scs.uiuc.edu>
Message-ID: <30EBE0AA.2BBD@aries.scs.uiuc.edu>
Source record: 108390

James Griffith wrote:
snip
> That is why the missing chip code to the ATU article is importent. Not
> because you can build the unit by odering the part, but because you can
> not say, on the air, I programed the chip myself from and article in QST.
>

BRAVO.
--

Chuck, KE9UW

63. 116 Oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Niels Montanana <NFM@lcpub.ftech.co.uk>
Message-ID: <4ch8gm$1s1@alpha.ftech.net>
Source record: 108391

Does anyone have a good circuit design for a 116Mhz oscillator with
+17dbM output suitable for a 2m - HF transverter ?

64. MICRO BREWERY GEAR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: heyliger@rockmedia.com
Message-ID: <4cgl88$2mv@news-2.csn.net>
Source record: 108392

FOR SALE: COMPLETE NEW 7 BARREL BREWERY MANUFACTURED BY INN BREWING OF ENGLAND. ALL VESSELS ARE STAINLESS STEEL, INSULATED AND CLAD IN WOOD. THE EQUIPMENT IS IN GLENWOOD SPRINGS, COLORADO. ASKING PRICE IS $95,000. CALL BILL CARVER AT GLENWOOD CANYON BREWING CO. (970)945-6565 EXT 391. THE EQUIPMENT CONSISTS OF THE FOLLOWING:

1 BRAMFORD OC3 MILL 1500 POUNDS PER HOUR
1 AUGER
1 MASH TUN, FLASE BOTTOM, SPARGE ARM, HYDRATOR, COPPER WATER PIPE AND VALVES
1 GRANT WITH FLOAT SWITCH
6 PUMPS
1 BREW KETTLE, CIP, HOP FILTER, WORT RECIRC LOOP, CONDENSATE STACK, HOP FILTER, 2 18KW ELECTRIC ELEMENTS WITH CONTROL PANEL
1 SET HOT WORT PIPES INSULATED WITH S/S SLEEVES
1 2 PASS HEAT EXCHANGER WITH THERMOMETER
1 PALL FILTER
1 EXTERNAL CARBONATOR FOR SERVING TANKS
10 HOSES WITH STAINLESS ENDS
1 COLD LIQUOR TANK
3 HINGED LID OPEN FERMENTORS, JACKETED, CIP, STANDPIPE
8 GRUNDY CONDITIONING/SERVING TANKS, JACKETED, INSULATED, COMBINATION MANIFOLD, THERMOMETER, CIP, SAMPLE VALVES, S/S BUTTERFLY VALVES, YEAST THIMBLES (STANDPIPES)
1 WATER FILTER
4 SACHOROMETERS
1 DIPSTICK, HEAD SPADE, ROUSER, YEAST SPADE, MASH TUN HOOK, SAMPLE CAN
11 GLYCOL CONTROL VALVES WITH FLOW INDICATOR BULBS
1 BOX PLUMBING VALVES AND ELBOWS
1 CO2 TESTER
7 REFRIGERATOR GLYCOL UNITS CORNELIUS
SPARE O-RINGS, HOSE CLAMPS, TEFLON TAPE, SIGHT GLASS, SPANNERS, MISC S/S FITTINGS

ALSO FOR SALE: 7 BARREL COPPER TOP BREWHOUSE FEATURING A BEAUTIFUL HAND MADE COPPER DOME AND CONDENSATE STACK ON THE BREW KETTLE. ASKING PRICE $18,000.

1 AUGER
1 MASH TUN
1 GRANT WITH FLOAT SWITCH
2 PUMPS
1 BREW KETTLE, SIDE MANWAY
1 WATER FILTER
SPANNERS

Dave Heyliger
Rocky Mountain Multimedia (970) 945-9415
http://www.rockmedia.com/multimedia
Kiosks, Promos, CBT - Anything Multimedia for PCs and/or Macs

65. Re: Need AA-size dummy cell/bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960104174214.29544J-100000@biggulp.callamer.com>
Source record: 108393

Dave....why buy???? A proper sized wooden dowel and a piece of wire will do!
Cliff Buttschardt W6HDO

On Tue, 2 Jan 1996, David Feldman wrote:

> I'm looking for a source of dummy cells, AA size. These would be used when
> (for example) you want to use 6 alkaline (1.5V) cells in lieu of 7 nicad
> (1.2V) cells and need to bypass one of the cells in a way that's mechanically
> sound. Has anyone seen these for sale anywhere?
>
> 73 Dave WB0GAZ dgf@netcom.com
>
>

66. Converting Cellular to 902MHZ band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HZLTSHAXQQ004YS6@uthscsa.edu>
Source record: 108394

on 4 Jan 1996 00:39:44 GMT TSJV87A@prodigy.com (Ernest Hansen)
writes:

-Does anyone have any advice, recomendations, information or pointers to
-information on converting cellular telephone equipment to the 902 MHZ
-amateur band? Is it possible? Post or Email me at TSJV87A@prodigy.com.
-Thank You Very Much.
-
- ERNIE TSJV87A@prodigy.com

Difficult and expensive. It would be cheaper to just buy the 900MHz
rig. You have the problems with the very sharp filtering in the
transmit and receive portions of the phone. Remember, the transmit
and receive at the same time just like a repeater. They have VERY
sharp bandpass filters to prevent the transmitter from desensing
the receiver. You would have to change both of these filters. You
would then have to change out the transmit module that is specifically
designed to transmit in the 830MHz band. Most of these modules
use direct digital synthesis that is controlled by CPU by specific
"memory addresses." ie. 10100111 might mean "transmit on
832.875MHz" so the transmit module transmits on only a specific set
of frequencies. The same is true for the receive module. Now if you
can find one of the old (10+years) phones you might be able to
modify one of those. They had a separate digital synthesizer and
signal generator. Many of them used Z80 CPUs.
Good luck

Kevin, WB5RUE
muenzlerk@uthscsa.edu

67. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960104180111.29544M-100000@biggulp.callamer.com>
Source record: 108395

Your comments and observations regarding the automatic antenna tuner article is right, spot on the money! 73 Cliff Buttschardt W6HDO

68. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4chofv$825@hpscit.sc.hp.com>
Source record: 108396
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <4cgb3t$cqg@daffy.sb.west.net>, qrk <mark@reson.com> wrote:
>opworld@worldnet.fr (Hello) wrote:
>
>>Is there a remplacement for this chips ?
>
>You might try the LM1496 from National Semiconductor. According to a
>new parts catalog, it is still available from National Semiconductor.
>
>-
>Mark Chun | mark@reson.com | Santa Barbara, CA
>

For new designs, I am using a Harris HFA3101 Gilbert cell as a replacement
for the 1496. It is almost a pin for pin functional replacement, but
requires less bias voltage and current and has an order of magnitude or
so more bandwidth.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

69. Re: Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan4.163659.21155@ke4zv.atl.ga.us>
Source record: 108397

In article <4cf5k1$4dd@service-2.agate.net> John Wilcox/NS1Z <ns1z@rumford.agate.net>
writes:
>Was talking with my buddy this evening on the subject of buying and
>selling home brew gear. It was my opinion that home brew gear took such a
>beating at the sales table/tailgate due to the fact that most hams
>believe that no other ham has any construction skills and therefore, any
>equipment built by Mr. No Skill is worthless, except for the parts (which
>may or may not be any good!). Is this the way it is in your area of the
>world? What would make a piece of HB gear more valuable to the astute
>buyer?

Most homebrew gear has no documentation, no support, and may be one of
a kind. Now used commercial gear may have no documentation too, but you
can usually find some, either from the manufacturer or from other users.
If the commercial gear is relatively recent, it may also still have
manufacturer support and parts available. Even if it is old, there are
likely thousands of other units out there as points of potential salvage
(see Micor or GE Mastr). Your homebrew offering has none of this. It
is like an orphaned piece of equipment from a defunct company. Unless
there's some collector value, people won't usually pay more than salvage
prices for that type of gear.

Now that should give you an idea how to increase the value of your
homebrew gear on the market. Make sure there is full documentation,
operating instructions, schematics, theory of operation, parts lists,
and even X-ray view board layouts if applicable. This should all be
nicely organized and bound, and included with the equipment. The
equipment will still be an orphan, but it will be a more valuable
orphan because of the information that would otherwise have to be
puzzled out by the buyer. (This is *very* important to me.)

As to builder skill, I treat this somewhat the same way I would
when buying a used Heathkit. I look at the unit and see how
professional it looks. Someone who has taken the time to make
up professional looking panels, who has soldered neatly, and
who has paid attention to wiring dress, probably also took
some care in design. Therefore I'm more likely to pay a good
price for something that *looks* like quality equipment than
I am for something that looks like Rube Goldberg haywire junk.

If the seller will additionally be willing to demonstrate the
equipment, and/or offer a brief warranty period, then I'm *much*
more likely to pay him a better price.

In short, the closer your homebrew gear approaches commercial
standards and practices, the closer I'm willing to pay comercial

prices.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

70. Linear Transverters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HZLVDOBBNM005MMF@uthscsa.edu>
Source record: 108398

I am planning to buy a transverter (2 meter) that requires
1mw to 10mw input. My rig can be turned down to about
5 watts output. Should I just build a 20db attenuator or is
there a better way?

thanks

Kevin, WB5RUE
muenzlerk@uthscsa.edu

71. FT757GXII filter mod HELP!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: ko4qc@ix.netcom.com
Message-ID: <4ch69g$ffg@cloner3.netcom.com>
Source record: 108399

Can anyone help me with the modification that enables the Narrow CW filter to work on SSB?The rig is the FT757GXII.I understand it is different from the other FT757 models.Any help/suggestions/comments are welcomed. Thanks!
Ko4qC

72. Re: Linear Transverters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan4.165619.21361@ke4zv.atl.ga.us>
Source record: 108400

In article <01HZLVDOBBNM005MMF@uthscsa.edu> MUENZLERK@uthscsa.EDU (Muenzler, Kevin) writes:
>
>I am planning to buy a transverter (2 meter) that requires
>1mw to 10mw input. My rig can be turned down to about
>5 watts output. Should I just build a 20db attenuator or is
>there a better way?

There are some potential pitfalls when "turning down" a HF rig to act as an exciter for a transverter. While signal will be less, amplifier noise won't. So you'll be transmitting a good deal of broadband noise at the transverter output. And most solid state PAs will show a greater percentage distortion as their drive is reduced from design values. So IMD and splatter may be worse. And many solid state PAs will show reduced efficiency at low drive. These factors can add up to a crappy signal on the air through the transverter.

There are two other ways which are generally better. One is to run the rig at full power into a dummy load and use a 40 db coupler to bleed off a 1 mW sample from a 100 watt exciter. This will give you a signal *cleaner* than you'd normally get on HF since the fixed level broadband noise will be attenuated, and the distortion characteristic will be at design values. This does waste power, of course.

The second way is to go into the HF rig and take power out from the driver stage where the levels will be more nearly what you want to drive the transverter. You can then disable the PA entirely, and save the idle current it normally draws. This gives you a clean signal, and saves power for portable operation. I prefer this solution.

Of course, if the transverter IF port isn't split, you're going to have to come up with some sort of TR circuit to switch out any attenuation you may have in there for transmitting. This is one reason I prefer transverters with split T and R IF ports, and HF driver radios with same.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

73. Ten Tec 2M Transceiver Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: tom_maszerowski@mc.xerox.com
Message-ID: <1996Jan4.194321.18158@news.wrc.xerox.com>
Source record: 108401

Does anyone knwo if Ten Tec ever intends to produce this kit or is
it permanently "temporarily discontinued" ?

Thanks.

--
Tom Maszerowski
tom_maszerowski@mc.xerox.com

74. "%%% WANTED COLLINS SC-101 %%%"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: CBAX63A@prodigy.com
Message-ID: <4ch6pq$1d8k@usenetp1.news.prodigy.com>
Source record: 108402

Will pay cash and shipping for "dead or alive" unit ANY CONDITION!!
Call me @ 800-399-4383 x765 24hrs.
-
ROLAND S GETER SR
WB6LNA
CBAX63A@prodigy.com

75. Re: Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4chfdk$9hj@mksrv1.dseg.ti.com>
Source record: 108403

I've found this to be somewhat true in my area (Dallas). I have sold a few HB items (QRP transmitters, a keyer, a small d-c receiver) and a number of commercially built rigs with modifications (some minor, some major). As I recall, in nearly all of these cases, the buyers were themselves fairly savvy about homebrewing and modifying equipment, and they were able to look at and recognize good workmanship and use of quality parts (both of which I take pride in when I build something). Homebrew gear on a swap meet table draws a lot of "tire kickers" and "question askers", but only the "right" buyer will buy it. And, as I said, the right buyer is usually a home-brewer himself. I only sold one semi-HB item over the Internet, and the buyer wanted it specifically for the parts (I actually stripped it, sold him what he wanted, and kept the enclosure and unwanted parts for myself).

I guess you're considering offering some HB items for sale? Whatcha got? I'm not afraid to buy HB gear if it's done right!

73 / 72 de KC5NG (Dean, Lake Dallas, Texas)

76. Profitting from QST articles (was QST Automatic Tuner Article)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Jim <jdd@cellnet.com>
Message-ID: <4chf6s$gl9@mirrors.cellnet.com>
Source record: 108404

Hi folks,

I too have qualms about using QST articles as a profit making vehicle for the authors and kit makers. But my guess is that QST doesn't have much choice due to a lack of good article submissions from hams with only the advancement of the hobby in mind.

We, the readers of this news group, are the builders and innovators of the ham community. If we don't write these articles, QST and the other mags can't print them! We need to get off our tails and get on it, or we have no right to complain. I certainly do NOT exempt myself from this, and I've got something on the bench now. I hope to write it up...

Good luck!

Jim, WU0I

77. VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4ch6gf$56k@abyss.West.Sun.COM>
Source record: 108405

One technique I've used and seen used elsewhere to reduce the noise
on a power line is to insert an emitter follower into the
power line. The base of the emitter follower is biased from a
resistive voltage divider attached to the collector (which forms
the "input"), and a fairly large filter capacitor in parallel with
a smaller one is attached from the base to ground. I've never
actually measured the noise reduction of this arrangement, but
SPICE suggests it is significant. I believe it is fair to
analyze this circuit as an RC low pass filter with an emitter
follower added to reduce the output impedance.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

78. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4ch84d$5ie@abyss.West.Sun.COM>
Source record: 108406
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <137cc$16c20.255@news.ak.net>, Hello <opworld@worldnet.fr> wrote:
>Hello,
>
>Is there a remplacement for this chips ?

The NE602 is very popular, with an on-board oscillator that can be
bypassed.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

79. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4cfv9v$r07@abyss.West.Sun.COM>
Source record: 108407

In article <4c5jui$5im@proffa.cc.tut.fi>,
Kein{nen Paul <k23690@proffa.cc.tut.fi> wrote:
>
>Zack Lau (zlau@arrl.org) wrote:
>: Is there a bette chip to use than the
>: ancient 723 regulator chip? The National
>: Databook lists its output noise as
>: typically 2.5 uV rms between 100Hz and
>: 10 kHz.
>
>The Fairchild data sheet for uA723C lists 2.5 uVrms with Cref=5 uF in the
>reference divider and 20 uVrms without Cref. It seems that the real culprit
>is the voltage reference and not the error amplifier and output stage.
>However, I could not find at what output voltage these noise voltages are
>measured. If the main sourc of noise is the voltage reference, you get
>much prettier figures at 2 V output than at 36 V output.

The TI and National Semi databooks both list the 723 as having a
typical output noise voltage of 2.5uV RMS in a test configuration
given as Figure 1 in both datasheets. The value of the reference
voltage divider resistors is given Table 1 in both datasheets;
the output voltage is 5.0V.

Interestingly, while both datasheets list 2.5uV RMS as the typical
noise voltage with a 5uF capacitor at the error amplifier input,
the National sheet lists the typical noise voltage as 86uV RMS
without one, and the TI sheet lists 20 uV RMS. While the Motorola
MC1723 sheet lists the same conditions and values as the TI sheet,
it omits the table specifying the resistor values used to achieve
the 5.0V output.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

80. SIMPLE SIMPLEX REPEATER....HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: tcmedlin@cris.com
Message-ID: <4cf79j$559@spectator.cris.com>
Source record: 108464
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I recently built the simple simplex repeater as described in 73 Amateur Radio Today, nov 1995 issue but i have one problem that i need help resolving. if the receiver receives a signal for about one half second or less, the simplex repeater keys up for the entire 20 second period then drops out. any received signal more than about a half second operates it correctly. example: if the receiver receives a signal for 5 seconds, after the rec signal drops, it then retransmits this signal for 5 seconds and then resets or drops out. it is only the very quick keying pulses that lock this thing up.

the repeater is based on the ISD1000A voice record/playback IC which can be found at radio shack and about 30 simple parts. this chip is designed to record a maximun of 20 seconds.

there are 2 rc delay circuits which i have tried to adjust but this does not seem to help. I dont think the problem is power related as i have a good supply, and plenty of filtering and bypassing on it.
If anyone can help, please email me at tcmedlin@cris.com

thanks,
Tom WA5KUB
email: tcmedlin@cris.com

81. Re: 2M T/R relay plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4cfepa$bt6@newshost.lanl.gov>
Source record: 108465

It's been a while since I homebrewed my VHF T/R relays but I found some SPDT reed relays in a surplus catalog (cannot remember the source) and it was a fairly simple matter to enclose them with braid from RG58 or RG59 and wind a solenoid coil around the outside to apply the 12VDC switching voltage to. Of course the connections to the reeds and shield must be kept as short as possible to keep it fairly constant impedance wise as well as minimizing loss.
As mentioned in a previous post, Motorola makes a fairly low cost ($20 range wholesale) VHF/UHF reed relay that they use in MICOR mobiles and bases as well as mocom 70 types. They are also easily repaired by removing the plastic solenoid square coil held in place with only a clip and prying the cast relay halves apart with a screwdriver. Some have a pop rivet through the middle that should be drilled out with a 1/8" drill bit first. There are 2 SPST reed relays inside, usually only one will be bad and either can be replaced with reed relays liberated from Radio Shack-style 5-12VDC reed relays. Dead Motorola relays like this used to be quite common at 2-way radio repair shops, if you have some locally try to see if you can make a deal for them to give/sell them cheap to you or save you a few in the future.
Hope this helps.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

82. Re: Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4cffg1$bt6@newshost.lanl.gov>
Source record: 108466

HB gear is next to worthless resale-wise because it IS homebrew. There is no factory to contact regarding parts, design, schematics, or service information. I'm not trying to belittle homebrew gear, I'm a very avid homebrewer myself but facts are facts. Buying a hb circuit for the parts is a bad deal too since it is so labor intensive to try to salvage out parts.
About the only exception to this might be well made RF amplifiers which use common designs as well as universally available parts (usually).
Thus, my advice would be for you to hang on to your homebrew projects and show them to your grandkids or something or just drag them out and sigh over them in later years. Don't even salvage them for new projects. You will doubtless someday wish you still had those projects around. I sure wish I had followed this advice for so many of my projects of years ago that were then (and would be still) useless to most would-be buyers but priceless to the original builder or his family.

--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

83. Re: Motorola Handie-Talkie freqs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: mikek@deltanet.com
Message-ID: <4chkuj$ju0@news2.deltanet.com>
Source record: 108467
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Since you didn,t state the model #, They could be anywhere..... Best thing (and least expensive) is to borrow a frequency counter and check it out. Don't be suprised if you can't find the right PL tone on your Standard. HT-600's have non-standard and digital PL's.
Good luck.....

-Mike
mfogarty@netcom.com (Michael Fogarty) wrote:

>A friend has a pair of Motorola HT600's. They're two channel, commercial
>grade HTs. Trouble is, they don't seem to say on which frequencies they
>xmt and rcv. I'd like to be able to tune in with my Standard HT. Does
>anyone have this information?

>Thanks,
>mfogarty

84. Motorola Handie-Talkie freqs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: mfogarty@netcom.com
Message-ID: <mfogartyDKo36K.KGH@netcom.com>
Source record: 108468
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

A friend has a pair of Motorola HT600's. They're two channel, commercial grade HTs. Trouble is, they don't seem to say on which frequencies they xmt and rcv. I'd like to be able to tune in with my Standard HT. Does anyone have this information?

Thanks,
mfogarty

85. Re: SIMPLE SIMPLEX REPEATER....HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4cfgrl$bt6@newshost.lanl.gov>
Source record: 108469
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I couldn't believe I had this issue of 73 right in a small pile
at my fingertips. Your description of the problem plus a
perusal of the schematic makes me suspect some "squirrelies".
I note the COS input line is bypassed with C3, a .22 uf
capacitor. Is this in place and is it close to U4? If it is,
I recommend the following:
-Try installing .1 or .2 uf capacitors physically close to pins
4&5 of U3, pins 9 and 10 of U3, and pin 27 of U1.
-I don't see it in the circuit but all your IC's, especially
the logics (U3 and U4) should have the VCC pins bypassed with a
1 to 1 uf or so electrolytic mounted as close to the IC's as
possible and with as short a connection to circuit ground or
the IC ground as possible. I'd suggest this as your first
priority.
-You may also be experiencing RFI from your attached
transceiver. It probably should be mounted in a good rf-proof
box with incoming and outgoing wiring bypassed and/or choked
with ferrite shells and other RFI reducing techniques.
Good luck with the project. Hope some of this helps!
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

86. MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <137cc$16c20.255@news.ak.net>
Source record: 108470
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Hello,

Is there a remplacement for this chips ?

Happy New Year.
opworld@worldnet.fr
Happy
New opworld@worldnet.fr
Year

87. Re: Need AA-size dummy cell/bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: cstimson@hookup.net
Message-ID: <4cfk6r$h43@noc.tor.hookup.net>
Source record: 108471

Hi David,

Radio Shack may carry these as a replacement part to their TRC series
11M GRS HT's. I Have an old TRC-201 that supplied two of these "dummy"
batteries to use when you filled up the battery case with regular 1.5V
AA cells instead of Ni-Cads. They probably wouldn't have them in the
store but you could get them special ordered.

Hope this helps.

73
Craig
++
+ Craig Stimson +
+ E-mail: cstimson@hookup.net +
+ AX.25 : VA3DCS@VE3ZRD.#SCON.ON.CA.NA +
++

88. 14.230 MHz receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: heckers@db.erau.edu
Message-ID: <4ces60$53n@kernighan.cs.umass.edu>
Source record: 108472

I was wondering if anyone could help me out here. A couple weeks ago I was given a scanner (Bearcat 210). The scanner doesn't pick up 14.230 MHz (the main frequency for SSTV transmissions). Could anyone give me a simple schematic that would receive this frequency, or a mod for my scanner? I read an earlier message about altering a Radio Shack weather radio to receive 144 MHz, would this same mod work for 14.230 MHz? If so, how is it done?

Thanks in advance.

Shawn (heckers@db.erau.edu)

P.S. Please respond via e-mail if possible (or at least send a CC to my e-mail address).

89. Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-04 00:00:00 UTC
From: John Wilcox/NS1Z <ns1z@rumford.agate.net>
Message-ID: <4cf5k1$4dd@service-2.agate.net>
Source record: 108473

Was talking with my buddy this evening on the subject of buying and selling home brew gear. It was my opinion that home brew gear took such a beating at the sales table/tailgate due to the fact that most hams believe that no other ham has any construction skills and therefore, any equipment built by Mr. No Skill is worthless, except for the parts (which may or may not be any good!). Is this the way it is in your area of the world? What would make a piece of HB gear more valuable to the astute buyer?

--
John Wilcox / NS1Z
44.118.6.4
ns1z@ns1z.ampr.org
204.117.6.48
ns1z@rumford.agate.net

ns1z @ kb1bsc.fn44rn.me.usa.noam

90. Eddystone SW radio won't work - Need help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: ai657@freenet.toronto.on.ca
Message-ID: <DKpx8F.EB9.0.queen@torfree.net>
Source record: 108324

I have recently aquired an Eddystone EC-10 SW radio.
It doesn't work. Well actually it does but only for a few seconds
and only on the AM band. I've hooked it up to a good dipole
and looked at the power connections. It has a hum and little else.
I'd like to get this radio working but do not want to
spend mucho cash. Is there someone in the Toronto area that I
could take it to? Any ideas?
Please e-mail. Thanks.

91. Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <820873939.12121@pinetree.microserve.com>
Source record: 108325

Rf speech processors normally use the SSB signal already present inside a transmitter. They clip this signal, then filter it with a second IF filter. In a 9 MHz IF, the harmonics generated by the clipping process fall around 18 MHz, 27 MHz etc., so they're easily removed by the second filter. I'm beginning to wonder if this is really necessary though, particularly if the processor is an outboard accessory.

For example, say the outboard unit used a 6 MHz carrier oscillator, fed to a balanced modulator, in order to produce a 6 MHz double sideband signal. If that signal was clipped, won't the harmonics fall on 12 MHz and above? If so, the clipped signal could be filtered with an L/C low-pass filter, then converted back to baseband (audio) using a product detector and the same 6 MHz oscillator. This would eliminate the cost of two expensive filters.

I've never seen this done, so maybe I'm overlooking something. Anyone know of a reason it won't work?

73,
Jack WB3U

92. Re: Profitting from QST articles (was QST Automatic Tuner Article)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4cjkod$o1b@morgan.vf.mmc.com>
Source record: 108326

Does anyone know of anyone that has ever made money from an article in any ham magazine? I know several guys that have written several articles and they likely have only increased the amount of time that they have donated back to the hobby. I don't think they ever expected to make a cent.

As far as I am concerned, if one of them has the luck to make anything then that's great. I'll be surprised though if it's anything close to minimum wage.

73, Harry, W3IIT

93. Re: FT757GXII filter mod HELP!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4cij3n$m74@hpscit.sc.hp.com>
Source record: 108327

In article <4ch69g$ffg@cloner3.netcom.com>,
Joel Gamble <ko4qc@ix.netcom.com> wrote:
>Can anyone help me with the modification that enables the Narrow CW
>filter to work on SSB?The rig is the FT757GXII.I understand it is
>different from the other FT757 models.Any help/suggestions/comments are
>welcomed. Thanks!
> Ko4qC
>

I don't know if this is helpful but FWIW:

I have an FT757 (not GXII) and I installed a Fox-Tango narrow
CW filter in it. I also modified it so I could select this filter
while in SSB mode so I could use it for RTTY use. The latter mod
was simply a matter of deciphering the inscrutable Japanese logic
circuitry that controls the switching diodes for the filters and
connecting a toggle switch in the right place. I ran the wires for
the toggle switch out a hole in the rear panel. As far as the
Fox Tango filter (vastly superior to the stock one), I had to add
extra IF gain to make it useful. Actually, the radio is low in
IF gain in general so I added a second IF gain stage that is always
in place, in addition to the one just for the CW filter. It was
like a completely different radio after these mods.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

94. Accurate Clock for Digital Circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: CARDS User <mhr@aol.com>
Message-ID: <4cjesa$j4s@linus.mitre.org>
Source record: 108328

I am looking for a very accuarte clock (10 to 20 Mhz) to drive digital
circuits. The accuarcy should be roughly +/- 5 ppm at room temperatures.
If possible the circuit should be buildable with common electronic parts.
Please let me know if anyone has knowledge of an appropriate design.

Thanks to all in advance.

Mark R.

95. Re: Ham Gods: interesting questions on the nature of Hetrodyning/Spectrum Analyser guts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan5.172741.26006@ke4zv.atl.ga.us>
Source record: 108329

In article <4chl02$1te@soap.news.pipex.net> fj91@dial.pipex.com (Andy Green) writes:
>Things I know:
>
> * We need to use hetrodyning for the same reasons as
>radios

A spectrum analyzer *is* a radio receiver, just one that tunes itself.

> * We may need to have multiple mixer 'channels' to
>deal with the enormous frequency range,
> as varactor-tuned VCOs have limited range

No. You don't want to do it this way for a number of reasons. If
you use discrete channels, you're going to have a devil of a time
gain leveling and sweep matching at the step edges. The standard
method is to use a pair of microwave oscillators in the 2.3 to 3.3
GHz range. You can VCO them in a dual loop so that the resulting
difference frequency span covers DC to 1 GHz in a single sweep.
Normally, both oscillators will be VCOs, with one doing coarse
sweep and the other doing a fine span for when you want to look
at a particular frequency range closely.

That method would be the way to go for a signal generator over
the range, or as LO for a low first IF, but you really don't want
to use a low first IF because of image problems. Better would be
to locate the first IF at 1.2 GHz, so you want your microwave
VCOs to be 3.2 GHz (fine) and 4.4 to 5.4 GHz (coarse) respectively
so that their difference will be 1.2 to 2.2 GHz, and the difference
of that output with your desired signal span will fall on the 1.2 GHz
IF frequency. Then all you need is a 1 GHz low pass filter on the
front of your analyzer to eliminate possible images.

> * We can use multiple IF stages, subsequent ones
>'tuning in the previous stage's bandwidth' with
>decreasing IF filter bandwidth as we go

Again, you're going to have a devil of a time gain matching this
cascade. You need accurate signal amplitude values across the entire
span if the spectrum analyzer output is to be of any value. What
you really want is a single mixer capable of working across the
entire range, and follow that by a fixed set of IF amps with a
calibrated response. That's much harder to achieve if you have
sweepers inside of sweepers, not to mention all the extra spurious
signals that would imply.

> * There exists nice cheap mixers like the NE602 and
>the NE600

There certainly are, but they're *crap* for spectrum analyzer
use. You need a high dynamic range (at least 100 db), and the
best way to get that is with a DBM.

> * There exists nice cheap 10.7Mhz ceramic filters with
>50kHz bandwidth (hurrah)
> * There exists nice cheap 455kHz 'IF Can' filters with
>4kHz bandwidth (hurrah)
> * The selected IF (which depends on desired bandwidth)
>goes to a log amp and a detector,
> followed by an A-D convertor in our case

You need image protection, and a 10.7 MHz first IF isn't
going to give you that over this range.

>Top three things I don't know and would like pointers
>on :)
>
> * If I feed the same frequency sine wave to the RF and
>LO sides of a mixer, I know I get double the frequency
>(ie, the second harmonic). But the rules of mixing
>seem to indicate I will also get some kind of component
>at DC, ie f+f=2f, and then f-f=0. Assuming you are not
>already choking on your beer with laughter at this
>newbie blunder, why then does one need a detector? Why
>can't I run the LO at the frequency I'm interested in,
>slug the mixer output with some brutal filter that
>suffocates anything past a few Hz and accept the result
>as reflecting the RF energy at the frequency of
>interest? (is it 'cos the output of the mixer is
>AC-coupled internal to the mixer? :( ) I really really
>_really_ wish I could do this, because then I end up
>with a tracking generator for free.

Ok. The products coming out of a mixer are, F1, F2, F1+F2,
and F1-F2. The post mixer filter has to select *one* of them
to feed on to the IF chain. The easiest way to do that is to
make sure F2 and F1+F2 are well above the range of interest
for F1 (the signal), and that F1 is well below F1-F2. (Note
that F1-F2 will be a negative number in this mixing scheme.
That's Ok, all it means is that there will be a phase reversal
in the product and that the VCO will tune backward from what
you'd naively expect, IE the sidebands will be flipped so that
upper sideband signals will appear as lower sideband signals
and vice versa. This is a trivial problem to handle at the
detector.)

Now, why don't you want to do a DC receiver? Well, several reasons.
First, with the VCO on the same frequency as the desired signal,
IE F1=F2, the output of the mixer will be a DC level representing

the difference in *phase* of the two signals. If the two signals are of the same phase, output will be zero, if they are 180 degrees out of phase, output will be maximum. In between, the DC level will be proportional to the phase difference (with sign reversals for quadrant changes). This isn't usually the information you want to display. Now if you could maintain the LO at a fixed phase offset from the signal, the DC level would be proportional to the relative amplitudes of the two, so you'd get useful amplitude information for the display, but this is an unlikely situation. Normally, you'll be scanning the span with an LO of arbitrary phase and mixing with signals of totally unknown phase. That means all you get out of the mixer is a varying beat that's proportional more to varying phase than amplitude variation. This incidental FM is *error* as far as the spectrum measurement is concerned. We need the two frequencies to be separated far enough that this FM error falls outside the bandwidth of the post mixer filter, IE the product needs to be far away from DC.

Now you can't use a very brute DC filter either because that will limit possible sweep speed. If we say 1/T is the sweep timebase, then T can't be smaller than the settling time of the filter, IE if the settling time of the filter is 1 second, you can't sweep faster than 1 Hz/sec or the amplitude value you get out of the filter will be incorrect. This holds true at any IF, of course, and is only dependent on the bandwidth of the filter.

But the most damning reason why you don't want a DC receiver is that the opposite sideband will *alias* into the passband, IE any signal below carrier frequency will have the same difference signal as a signal the same amount above the carrier frequency. Since the products will appear on the *same* frequency at the mixer output, though phase reversed due to one of them being of a positive sign while the other will be of a negative sign as explained above, you can't separate them with a post mixer filter.

This is image reception, and should be considered a *major* source of error. The only way to avoid this is to bandlimit the input signals so that the image frequency can't pass to the mixer. That's why you want to do up conversion for the first IF. A simple low pass filter will protect from images across the entire frequency span of interest. If you use a low IF, and DC is an extreme example, you'll need *tracking* image filters in the front end. This is a *huge* headache you seriously want to avoid. With a DC receiver, this tracking filter has to be *extremely* sharp, in the limit case requiring a shoulder of infinite attenuation zero Hertz from the desired signal. That's physically impossible.

Now there is a way to use quadrature detection and phasing to remove the image, but I'm not sure you want to do this as it will be tricky over such a large span to maintain accurate quadrature.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

96. Re: Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <4cjeev$pec@mgate.arrl.org>
Source record: 108330

There seems to be a demand for 10 GHz SSB/CW
transverters (2M IF). A number of people have
asked me about selling my spare units and I know
one ham who is busy making/modifying 10 GHz gear
for others, presumably at a profit.

It would probably help a great deal to make
photocopies out of your notebook that document
the circuitry accurately. It probably wouldn't
be worthwhile to write a complete service manual.

Zack KH6CP/1 zlau@arrl.org

97. Re: Ten Tec 2M Transceiver Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDKpuKz.297@netcom.com>
Source record: 108331

In article <1996Jan4.194321.18158@news.wrc.xerox.com> tom_maszerowski@mc.xerox.com (Tom Maszerowski) writes:
-Does anyone knwo if Ten Tec ever intends to produce this kit or is
-it permanently "temporarily discontinued" ?

Good news! I just called Ten Tec, and they are busy packaging kits. They will begin taking orders around 1/23 and plan to start shipping at the end of January. They also plan to have a 6M version out in March. So it looks like the long wait is almost over, maybe...

/mike
--
\|/ Michael L. Ardai N1IST
-*- ---------------------------------
/|\ n1ist@netcom.com

98. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4cjok7$jpm@newshost.lanl.gov>
Source record: 108332

The V130 represents the clamping voltage or 130 volts in these
cases(normal voltage rating for an MOV used on typical
110-120VAC circuits). I "believe"(flamebait!) the second
number is the withstanding surge current rating or in the case
of the
V130LA10A it likely is 130 volts clamping, 10 amp surge current
withstanding. In other words it is likely to fail if the spike
or surge current exceeds 10 amps for very long.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

99. Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: mdonohue@renc.igs.net
Message-ID: <4cj41m$nu4@nntp.igs.net>
Source record: 108333

Hi All:
I trust everyone had a Merry Christmas and a Happy New Year to
all Amateurs in Radio Land. I have come across an old QST article which
gives plans to build your own Power Strip with RFI/EMI protection which
happens to use MOV's. However I have come across various types and have
no data on them. Can anyone help me out on which one is the best to use
and also how to understand the MOV Numbers.

V130LA10A
V130LA13A
V130LA20A
V130LA20B
V131DB40

This power bar will be used on 120v AC line which is common in
North America. Thanks for any help that you can provide.

73's De Michael VE3DMJ

100. Re: MICRO BREWERY GEAR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: gayle@ldd.net
Message-ID: <4cijte$fra@sparky.midwest.net>
Source record: 108334

langlois@alex.ecs.umass.edu (Philip M. Langlois) wrote:

>Dave Heyliger (heyliger@rockmedia.com) wrote:
>: FOR SALE: COMPLETE NEW 7 BARREL BREWERY MANUFACTURED BY INN BREWING OF

> <snip>

>How much transmit power does this setup have? :)

>Phil, NC1J
>--
>____
>Philip M. Langlois (langlois@alex.ecs.umass.edu)
>Research Engineer

It's a full two gallons. ;-)

Marty Albert (Amatuer Radio Station KC6UFM)
PO Box 717
Fredericktown, MO 63645

101. SIMPLE SIMPLEX REPEATER.....HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: tcmedlin@cris.com
Message-ID: <4ckdsh$pjc@spectator.cris.com>
Source record: 108335
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I recently built the simple simplex repeater as described in 73 Amateur Radio Today, Nov 1995 issue. I have a bug and need help with ideas which may correct the problem. this simplex repeater is built around the ISD1000A voice record/playback IC that is available at radio shack. It has a max recording/playback time of 20 seconds. there are only 2 other simple flip-flops and a few other parts. This repeater should receive any transmission up to 20 sec, then rebroadcast that. It does that and the audio sounds good. Now here is the problem: if any received signal comes in for about one-half second or less, it then keys up the transmitter for a full 20 seconds before it will send the EOM end of message reset. this is not good because a short static burst or quick keying of the mike will lock it up for 20 sec. It functions normally of any signal over 1/2 second and up to 20 seconds. I dont think it is RF because I can manually key it up by manuall changing the voltage on the COS line and it still hangs up for 20 seconds. Does anyone have any ideas? Please email me if you can help.
thanks,
Tom, WA5KUB
email: tcmedlin@cris.com

102. Re: HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <820866198.5530@pinetree.microserve.com>
Source record: 108336

elendir@enst.fr (Elendir) wrote:

>HI. You call a 300 W amplifier "medium power" ?
>It is already more than we are authorized here ! (in France : 250 W max.)
>
>Just frightened :-)
>Vince, F5RCS

That was U.S. watts, Vince. Multiply by 0.2 for the metric
equivalent. ;)

73,
Jack WB3U

103. Re: MICRO BREWERY GEAR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: dennisg@microware.com
Message-ID: <4cjras$b4s@mcrware.microware.com>
Source record: 108337

In <4cj6lg$leu@newsbf02.news.aol.com> lrware@aol.com (Lrware) writes:

>Boy did he get the wrong newsgroup...

Weeeell maybe not ;-)

--
Dennis Gabler --o--------------------------=o=--------------------------o--
|
dennisg@microware.com KB5HVN/NNN0BQG__________| KB5HVN@WB0UGO.IA.USA.NA

104. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan5.182946.26351@ke4zv.atl.ga.us>
Source record: 108338

In article <30ec4d95.101599064@news.agt.net> smason@agt.net (Steve Mason) writes:
>On 4 Jan 1996 18:32:18 GMT, mjsilva@ix.netcom.com(michael silva) wrote:
>>The "big deal" to some of us is that the tuner was presented in a
>>build-it-yourself article, not in a product review. It's disengenuous
>>to publish a schematic for the whole world to see and at the same time
>>decide the source code must be kept secret.
>
>Ditto for the circuit board artwork. Even though I might have been tempted to
>purchase the pre-programmed chip (I don't have a programmer for that
>particular device) I certainly wouldn't pay $35 U.S. for the board when I can
>etch my own. I actually DO enjoy etching my own boards, but not designing the
>artwork.
>It seems to me that the author is definitely trying to make a few bucks by
>witholding the artwork/source code.

Oh, ouch, I hadn't noticed that no board template was available from
the ARRL. That's normal for this type of article. Though usually boards
are offered too, either by the author or FAR Circuits. I don't like to
make PC boards, and usually order the board set for this sort of thing.
The author is trying to profit from chip, board, and kit sales (which is
fine). I haven't priced out the analog parts, but I expect there's a
moderate profit designed into them too in this case. I will say that
the author's prices look quite *fair*. This isn't a ripoff, but it is
a kit *product*, and as such really belonged under the heading of
product review.

I don't mind that QST printed this, but I think that the way they
represented it is misleading at best. I'd much have preferred that
this kit be subjected to the regular review process, complete with
lab test results. As a *product*, I find this autotuner moderately
interesting (and may order the kit after all). As a construction article,
however, I'm completely turned off by the withholding of vital information
about the *auto* part of the tuner, and now by the lack of an etching
template (even though I'd have bought the board, it's the principle of
the thing that bothers me).

Upon reflection, I frankly don't fault the author at all. I think that
it is the editors of QST who have committed a serious error of judgement
here, and who have authorized payment of League funds for the privilege
of printing what amounts to an *advertisement*. That's not the way it's
supposed to work. The company is supposed to pay QST for carrying its
ads. (I'm assuming QST paid the regular feature article rate for this ad.
If they didn't pay, then I'm only upset by them misleading us that this
is a real construction article rather than what amounts to a reprint of
a kit assembly manual.)

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

105. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan5.183624.26483@ke4zv.atl.ga.us>
Source record: 108339

In article <4cj41m$nu4@nntp.igs.net> mdonohue@renc.igs.net (Michael Donohue) writes:
> I trust everyone had a Merry Christmas and a Happy New Year to
>all Amateurs in Radio Land. I have come across an old QST article which
>gives plans to build your own Power Strip with RFI/EMI protection which
>happens to use MOV's. However I have come across various types and have
>no data on them. Can anyone help me out on which one is the best to use
>and also how to understand the MOV Numbers.
>
> V130LA10A
> V130LA13A
> V130LA20A
> V130LA20B
> V131DB40

Ok, I'm going to take a stab at this. The first number is the
working voltage of the part, IE it's guaranteed not to conduct
below this voltage (130 volts). This is *not* the clamp voltage,
which may be 50% or so higher.

The second number is the energy rating in joules. This is how
much surge the part can handle without damage. I don't know
what the ABD letters mean, but will speculate that it may have
something to do with packaging.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

106. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: smason@agt.net
Message-ID: <30ed97c4.2898071@news.agt.net>
Source record: 108340

On Fri, 5 Jan 1996 15:49:27 GMT, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>I reread the article carefully last night. From the author's description,
>the algorithm *is* just a brute force search. First the L is stepped for
>lowest VSWR,

>That seems horribly crude, and only works at all because the L network

> The assumption seems to be that as long as the VSWR is below 1.5:1
> the no-tune transceiver will be happy so that's "good enough".

Does anyone know if the SGC autotuners do it differently, and are any better?

Steve VE6STV

107. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: Paul Moller <Paul_Moller@csg.mot.com>
Message-ID: <30ED8B39.1A85@csg.mot.com>
Source record: 108341

I only want to make a small comment about the tuner and LDG unrelated to the issue of the ethics of the source code issue.

I ordered a tuner today. They have had such a rash of orders that they are sold out, and are struggling to restock. They have in the works an enclosure for the tuner that is smaller than the one shown in the article. It will be available in 6 weeks or so. They are also working on other projects, like a 1.5kw version of the tuner, and a voter for repeaters. Look for them to show up again in QST!

108. Re: MICRO BREWERY GEAR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4cj606$u1@news-f.iadfw.net>
Source record: 108342

gayle@ldd.net (Gayle Albert) wrote:

>langlois@alex.ecs.umass.edu (Philip M. Langlois) wrote:

>>Dave Heyliger (heyliger@rockmedia.com) wrote:
>>: FOR SALE: COMPLETE NEW 7 BARREL BREWERY MANUFACTURED BY INN BREWING OF

>> <snip>

>>How much transmit power does this setup have? :)

>>Phil, NC1J
>>--
>>____
>>Philip M. Langlois (langlois@alex.ecs.umass.edu)
>>Research Engineer

>It's a full two gallons. ;-)

>Marty Albert (Amatuer Radio Station KC6UFM)
>PO Box 717
>Fredericktown, MO 63645

Hey, don't laugh, I toured the ETO factory (where they build Alpha
amps) and they do a lot of commercial stuff, they were building a 15kw
thing, looked like an amp/oscillator. They said it was an rf
generator to be used in a brewery for some sort of process similar to
pasteurization! Maybe this guy isn't in the wrong place after all...
Just too many cool 807's!
Cheers,
Kerry Miller
WD5ABC

109. 900 MHz Security

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: MUENZLERK@uthscsa.EDU
Message-ID: <01HZNG0MNNJ6006G5K@uthscsa.edu>
Source record: 108343

Fri, 5 Jan 96 02:11:00 GMT From: Jack Mott <jackm@pmafire.inel.gov>
writes:
-
-This posting is off-subject for this newsgroup, but I wanted access to
-the technical knowledge available here. I have a 900 MHz digital
-cordless phone (ATT 9100), and I am interested in how secure this type of
-phone is with respect to over-the-air eavesdropping. Please give a
-specific, technical answer addressing issues such as RF modulation and
-digital encoding. If you post a response, please also send e-mail.
-
-Charles Mott

If you are worried about someone on their scanner listening in then
there isn't a problem. All they will hear is a sound like a high speed
modem. Your phone might also be spread-spectrum. If this is the
case then anyone would be hard-pressed to lock in on your signal.
As far as RF modulation, it is probably FM with 5kHz deviation.
The digital sampling is sent in a packet form, short
sections of encoded data with CRC error checking/correction.
The handset and base "lock" onto each other with a specific "code"
each time the handset is hung on the base and removed. This prevents
someone, your neighbor for instance, from accidentally using
your phone line with his ATT 9100 phone. This code changes each
time the handset is placed on the base. This "code" is a 16 bit data
word so there are 65536 combinations. The base will (should) ignore
any handset that doesn't have the right code in the digital data stream.
There is probably no encryption of the data. Since your phone and
base are communicating back and forth with a digital signal it would
be very unlikely that someone, even with the same model phone, would
be able to tap into your conversation since the bogus handset would
not be able to "lock" onto the data stream because the base would
either ignore it (not the original caller) or would cause your handset
to change channels because of interference from the bogus handset.
Now I suppose someone could build a receiver that would decode the
data stream in a "listen only" mode. They would have to know the exact
encoding scheme that ATT used for that model phone.

I hope this helps.

Kevin, WB5RUE
muenzlerk@uthscsa.edu

110. Re: QST Tuner article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9600058208.AA820863233@mails.imed.com>
Source record: 108344

I foolishly posted several opinions on this subject over on qrp-l (or was it boat anchors?) just before the holidays. I had only scanned the article with the Christmas rush coming.

Many of the posts criticizing the authors and QST have lamented not being able to take the article and produce a project ranging from totally built from scrounged parts to bought the kit from the authors and put it together. I find that this article allows exactly this range!

I finally read the article carefully yesterday and found that, to the credit of the authors, the algorithm for setting the tuning is quite clearly described in the text in very general terms. I wish that QST had let them put in the flow chart (yech! We professional software types haven't used those in years) or other description of the algorithm to more precisely describe what is going on, but the prose is sufficient to do the job.

I found that what a few others suggested is quite possible. There is enough information to use another processor or a PC to do the job. An old XT class machine that is otherwise only useful as a door stop would work quite well. You only need 16 DC control lines to run the relays so you could easily do it from the parallel port of any PC with just a few latches and decode circuitry. Then you need some sort of A/D converter to do the VSWR data collection.

The board that is available could easily be modified to bring out the I/O lines for use with another controller if you don't want to roll your own.

Gee. All that bandwidth!

Ray Mack
WD5IFS
mack@mails.imed.com

111. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.820888906.1129.jwicklun@mycroftxxx.halcyon.com>
Source record: 108345

I guess that I missed the start of this thread, but I've seen the article and like many of you, I was disappointed that the source code was hidden. It actually doesn't look like it would be all that difficult to duplicate the software, from the description in the article, I got the impression that the software varies the inductor for closest match and then varies the cap over all the combinations.

In any case, I have to agree with the idea that it should have been called a product review instead of construction - and QST is doing this far too often. It isn't just software. A few months ago they published an article for an ATV transmitter and receiver (don't remember the exact frequency band) but the pcb pattern was not available for one of the components. Too bad you say, well with stripline components on the board it would be difficult to build without this additional information.

73 de KI7RH (Jay)

112. Re: Profitting from QST articles (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.14.005DB4EC@azstarnet.com>
Source record: 108346

In article <4cjkod$o1b@morgan.vf.mmc.com> hbrown@ew0203.resd (Harry H. Brown) writes:
>From: hbrown@ew0203.resd (Harry H. Brown)
>Subject: Re: Profitting from QST articles (was QST Automatic Tuner Article)
>Date: 5 Jan 1996 16:48:13 GMT

>Does anyone know of anyone that has ever made money from an article in any ham
>magazine? I know several guys that have written several articles and they likely
>have only increased the amount of time that they have donated back to the hobby.
>I don't think they ever expected to make a cent.

>As far as I am concerned, if one of them has the luck to make anything then
>that's great. I'll be surprised though if it's anything close to minimum wage.

>73, Harry, W3IIT

I don't know what my position is on this thread; I can see it from both sides.
I can tell you a personal story, however, which in my mind answers the
profit question.

I wrote and had published in the September 1979 issue of Ham Radio Magazine an
article titled "Split-band Speach Processor". I was pleased to have it be the
lead article and be featured on the cover. The article ran eight pages and I
was paid $350. On a time and materials basis, I probably made well under a
dollar an hour. The article included complete schematics, PC board artwork and
parts placement drawings as well as design equations. I paid a friend $100 to
lay out the boards and tape the artwork. This was in the days before word
processors and auto-routers BTW. I offered no kits or PC boards.

Shortly after publication, I began receiving requests for PC boards and I was
forced to reply that I did not have a supply. I casually mentioned this to
another friend who allowed that he would put up the funds to have some made
and we could sell them and split the profit(?). So off we went and ordered 100
sets of boards at a cost of a shade over $700.

No sooner having done this, and before taking delivery, I received a board in
the mail from Circuit Board Specialists, along with a letter informing me that
they would be selling boards for my project. I also noted that the boards were
Hi-Fi; they even included the hr logo and MY call sign. Seeing our $700
suddenly go down the tube, I placed a call to Jim Fisk, Editor of hr. I
naively thought that maybe he would use Copyright to prevent further
production. He basically said he didn't care and "Oh, by the way, there will
be a kit for your processor introduced shortly." What he didn't mention was
that it would be introduced by Radiokit, his new company. Ethics. He did
suggest that I run a classified ad in hr; which I did.

We ultimately sold the 100 boards and another hundred too. I also sold, at
cost, a Plessey IC that was readily available locally, but nowhere else in

the world. We got $12 for the boards that cost a bit over seven. After figuring the time spent addressing envelopes, answering letters, etc., this was a loosing proposition too.

Was it rewarding otherwise? You bet! I got letters and orders literaly from around the world. I learned how things are delivered into some foreign countries so the post office worker doesn't get them. I made some friends. One Australian club made it a club project, over ten years later. I got some deserved criticism, which I might add was dutifully published in hr along with my response. I got some glowing testimonials. I even got to answer questions from folks that bought from Radiokit. I hope I added a little something to the hobby. All in all, it was a great experience. Profitable monetarily? No way. Would I do it again? I dunno.

I have some other article ideas. Would QST publish them? Probably not. If they did, would I try to make a buck? No. Do I have a problem with those that do? Ethically, yes. Pragmatically, no.

End of story, thanks for listening.

Regards, Wes -- N7WS

113. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.15.00DD17FF@azstarnet.com>
Source record: 108347

In article <4ck2p5$kup@pacific.mps.ohio-state.edu> James Garland
<garland@ohstpy.mps.ohio-state.edu> writes:
>From: James Garland <garland@ohstpy.mps.ohio-state.edu>
>Subject: Re: Question: RF Speech Processing
>Date: 5 Jan 1996 20:47:33 GMT

>That's a great idea, Jack, but I'm afraid you're not the first to think
>of it. As I recall, there were several audio processors on the market
>during the 70's which used the basic idea: mix an audio-derived DSB
>signal up to an IF (usually 50-500KhZ), clip it, then mix it back to
>audio. ETO sold one of these units, if I remember correctly, as did
>VOMAX. I also recall reading a do-it-yourself article on the concept in
>one of the ham mags -- probably Ham Radio.
>Jim W8ZR

The Comdel CSP-11 was another one.

There are some intermodulation products to contend with tho. Maybe Bill Sabin
will help us here.

Some references:

"R.F. Clippers for S.S.B." by William Sabin, W0IYH, QST, July 1967.

"Ordinary and Processed Speech In S.S.B. Application" by Harold Collins,
W6JES, QST, Jan 1969.

"Speech Clipping in Single-sideband Equipment" by Walter Schreuer, K1YZW, ham
radio magazine, Feb 1971.

"Performance of RF SPeech Clippers" by Leslie Moxon, G6XN, ham radio magazine,
Nov 1972.

"Split-band Speech Processor" by Wes Stewart, N7WS, ham radio magazine, Sept
1979.

114. Bi-Directional Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.960105212912.12361C-100000@pmafire.inel.gov>
Source record: 108348

I have a question of the technical experts in this group, although the subbject matter is slightly off-topic for this newsgroup. I have heard that cable television systems will need bi-directional amplifiers in order to support high-speed two-way communications by cable modems. Is this correct? Also, how would one design a bi-directional amplifier over a 50-800 MHz frequency range (my guess as to what the cable spectrum is)?

At higher microwave frequencies, I would design a bi-directional amplifier using two conventional amplifiers tied together with ferromagnetic circulators. However, this design approach really does not work at lower frequencies (have you ever heard of a circulator covering 50 to 800 MHz?).

If you post a response, please also send e-mail.

Charles Mott

115. Re: 900 MHz Security

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4cjv14$naq@abyss.West.Sun.COM>
Source record: 108349

In article <Pine.HPP.3.91.960104190714.15867D-100000@pmafire.inel.gov>,
Jack Mott <jackm@pmafire.inel.gov> wrote:
>This posting is off-subject for this newsgroup, but I wanted access to
>the technical knowledge available here. I have a 900 MHz digital
>cordless phone (ATT 9100), and I am interested in how secure this type of
>phone is with respect to over-the-air eavesdropping. Please give a
>specific, technical answer addressing issues such as RF modulation and
>digital encoding. If you post a response, please also send e-mail.

The ATT 9100 uses wideband FM, modulated with the CVSD data produced
by a Motorola MC3418. I suppose someone could build a receiver
or tweak another 9100 to eavesdrop, but, as far as I can tell, this
is impractical enough to be of little concern.

Certainly it is much more secure than a conventional analog FM
phone, and even much more secure than a frequency-inversion
scrambled phone. It isn't encrypted, but I would say it is
essentially secure. I'm not a security expert, though ;-)

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

116. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: arisk@spidernet.COM.cy
Message-ID: <199601041906.WAA25574@mail0.spidernet.net>
Source record: 108408

I am also ahome brewer .Please put me on your list.
de Aris 5B4JE

117. How to build a TNC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: Marcos Antonio Gallego <mgallego@br.homeshopping.com.br>
Message-ID: <147cc$1471d.259@news.cyberplus.ca>
Source record: 108409

Hi all,

I'm looking for an article that can help me in how to build a TNC...
Regards,

Marcos

118. 900 MHz Security

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: Jack Mott <jackm@pmafire.inel.gov>
Message-ID: <Pine.HPP.3.91.960104190714.15867D-100000@pmafire.inel.gov>
Source record: 108410

This posting is off-subject for this newsgroup, but I wanted access to the technical knowledge available here. I have a 900 MHz digital cordless phone (ATT 9100), and I am interested in how secure this type of phone is with respect to over-the-air eavesdropping. Please give a specific, technical answer addressing issues such as RF modulation and digital encoding. If you post a response, please also send e-mail.

Charles Mott

119. Re: How to build a TNC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4ci8dh$st3@news-f.iadfw.net>
Source record: 108411

Marcos Antonio Gallego <mgallego@br.homeshopping.com.br> wrote:

>Hi all,

>I'm looking for an article that can help me in how to build a TNC...
>Regards,

>Marcos

Marcos,
Have you considered building a simple modem and doing the rest in
software like the "Poor Man's Packet" or Baycom? I know this is a
homebrewers forum, but building a whole tnc from scratch is more than
I want to tackle. The kits weren't too bad.
Good Luck,
Kerry

120. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: cj@algonet.se
Message-ID: <4ci642$t7u@prometheus.algonet.se>
Source record: 108412
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
New Contribution [ ] Update [ ]
-----------------------------------------------------------------------------
```

```
Title :
Author: Date:
E-mail: (optional)
---------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
---------------------------------------------------------------------
Description : (5-50 rows describing your application)

=====================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer
```

121. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: "Anthony R. Gold" <tgold@microvst.demon.co.uk>
Message-ID: <820869685snz@microvst.demon.co.uk>
Source record: 108413
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Does anyone have a suggestion on where to obtain the Service Manual for an H-P 8620C. I find that after lying unused for 6 months mine is now stone dead except for the illuminated power switch. Even the fan is off. Are there any other fuses apart from the line fuse near the IEC connector or will I need the schematic of the PSU?

Also, has anyone married an 8620C (eg with 86290B) to a Tek 7L18?

Regards,
--
Tony - G3SKR / AA2PM email: tgold@panix.com
tgold@microvst.demon.co.uk
packet: g3skr@n0ary.#nocal.ca.usa.na

122. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4ck20n$2qm@nntp.Stanford.EDU>
Source record: 108414
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <820869685snz@microvst.demon.co.uk> tgold@microvst.demon.co.uk writes:
>
>Does anyone have a suggestion on where to obtain the Service Manual for
>an H-P 8620C. I find that after lying unused for 6 months mine is now
>stone dead except for the illuminated power switch. Even the fan is off.
>Are there any other fuses apart from the line fuse near the IEC connector
>or will I need the schematic of the PSU?
>
>Also, has anyone married an 8620C (eg with 86290B) to a Tek 7L18?
>
>Regards,
>--
> Tony - G3SKR / AA2PM email: tgold@panix.com
> tgold@microvst.demon.co.uk
> packet: g3skr@n0ary.#nocal.ca.usa.na

There is an automatic shutdown circuit in the 8620A/C that puts the
unit in the state you describe if the fan does not start or fails
for some reason. I had an old fan with bad bearings that would not
start and, as a result, caused the instrument to shut down after
a second or two. This might be your problem.

There seem to be more mainframes around than working plug-ins for them.
I have found it convenient to buy a junker for parts to keep my good one
going.

Sorry, I have no manual for mine either.

Steve Muther WF6R

123. Re: MICRO BREWERY GEAR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: lrware@aol.com
Message-ID: <4cj6lg$leu@newsbf02.news.aol.com>
Source record: 108415

Boy did he get the wrong newsgroup...

124. Logic Analyzer: K-102D for trade/sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: "Walt W.", dfheli@Gramercy.ios.com
Message-ID: <4ci0dt$5d0@news2.ios.com>
Source record: 108416

Greetings All,

I have a Gould / Biomation K-102D 16 channel Logic Analyzer
for trade or sale.

Recently someone stole my pods and schematics for my machine.

The analyzer works.

I am asking $550 or trade?

Please e:mail me, if you are interested.

Walt Williams, 96.01.04
dfheli@gramercy.ios.com
73's

125. Re: Need AA-size dummy cell/bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jan5.145039.35570@ucl.ac.uk>
Source record: 108417

In article gu2@newsgate.sps.mot.com, Jim Strohm <Jim Strohm@ausq1ak> writes:
> Wrap a dead AA cell in tinfoil, and insulate with masking tape if
> necessary. Can't get much cheaper and simpler thna that.
>
>
And then wait for it to leak!

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

126. RF Power Devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: I H McKeag <I.H.McKeag@durham.ac.uk>
Message-ID: <4cjnsf$sum@mercury.dur.ac.uk>
Source record: 108418

I am having great difficulty sourcing semiconductor RF power
devices (100-500MHz; 50-200Watts) and detailed technical data
thereon. Can anyone point me in the direction of UK suppliers.

Thanks in advance.

Ian.

Damned peace dividend!! :-)

--
--00--00--00--00--00--00--00--00--00--00--00--00--00--00--00--00--00--00--00--00--

Ian McKeag,
Department of Chemistry,
University of Durham,
South Road,
Durham,
DH1 3LE
UK

Tel. 091 374 4649

127. Re: Ham Gods: interesting questions on the nature of Hetrodyning/Spectrum Analyser guts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: andy@moose.mv.com
Message-ID: <DKozMH.9u2@mv.mv.com>
Source record: 108419

In article <4chl02$1te@soap.news.pipex.net>, fj91@dial.pipex.com says...
>
> * We may need to have multiple mixer 'channels' to
>deal with the enormous frequency range,
> as varactor-tuned VCOs have limited range

Not if you use an up-converting receiver whose 1st IF is above your desired band. For example, I've designed a number of 50 - 750 MHz receivers using a 1st IF of 905 MHz. Why 905? It's in the 902 - 928 MHz wireless band where many, many good & cheap & small filters are available. There is another wireless band in the 2400 MHz region. You'll still have to get down to a low 2nd IF, but the high 1st resolves a host of problems such as images, VCO tuning ranges, etc. Of course, your VCO must be locked in a synthesizer loop. Check with Motorola and Trans-Tech for the filters. There are many others.

> * If I feed the same frequency sine wave to the RF and
>LO sides of a mixer, I know I get double the frequency
>(ie, the second harmonic). But the rules of mixing
>seem to indicate I will also get some kind of component
>at DC, ie f+f=2f, and then f-f=0. Assuming you are not
>already choking on your beer with laughter at this
>newbie blunder, why then does one need a detector? Why
>can't I run the LO at the frequency I'm interested in,
>slug the mixer output with some brutal filter that
>suffocates anything past a few Hz and accept the result
>as reflecting the RF energy at the frequency of
>interest? (is it 'cos the output of the mixer is
>AC-coupled internal to the mixer? :( ) I really really
>_really_ wish I could do this, because then I end up
>with a tracking generator for free.

What you need is a quadrature mixer, where you convert the input signal using a sine/cosine LO, otherwise you learn about how a mixer acts as a phase detector. Use the quadrature outputs as so -
|Vs| = sqrt(Vr^2 + Vi^2) <Vs = atan(Vi/Vr)
where Vr = cosine mixer output (real), Vi = sine mixer output (imag)

The neatest thing to do here is to digitize the quadrature mixer outputs and use DSP. That will require gain, offset compensation, ad infinitum.

> * My evil, cunning plan for generating DC-1280MHz via
>my evil, cunning version of DDS involves a fixed
>frequency divider chain starting at 640MHz (it divides

>by two each time). From 160MHz down, I see I can do
>this with 74AC74s or whatever, with a filter to kill
>the harmonics in the resultant 'digital-style' edges.
>However, how can one divide 640MHz and 320MHz by 2?
>Not with anything beginning 74, for sure :(. I have an
>alternative 'plan B' proposal: start the chain at the
>74AC-friendly 160MHz, and use the mix-the-same-signal
>frequency-doubling techniuqe to synthesize 320 and
>640Mhz. However, the division from a single 640MHz
>frequency 'Mecca' sounds like it should be more
>accurate.

You need one of the prescaler chips used in synthesizers that are available well into the GHz range and will work down to -20 to -30 dBm input levels. I've used parts from Motorola, California Eastern Labs, and Philips. Again, there are many others. You can get /2 , /4, etc, plus odd numbers from the dual-modulus types. You'll need these for a synthesizer anyway, unless you use one of the modern synthesizer chips which have them built in, like the National LMX23xx series - up to 2 GHz inputs.

>Gods of Ham: I salute you for reading these humble
>puzzlements. If you know things, please spare a moment
>to send this sinner on to the path of righteousness.

You won't realize what being a true sinner is until you get deeply into the design and construction of this beast 8*)!

--
Andy Borsa -- !!!The Universe is discretely analog!!!

128. Re: article/book detailing converting cb===>10 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDKq60L.AII@netcom.com>
Source record: 108420

Bob Tomas (tomas@ra.cgd.ucar.edu) wrote:
: I forgot to say that I am interested in converting modern,
: pll equipment---stuff that is currently being sold by retailers.

Because of illegal CBers, the FCC required that CB equipment be very difficult to modify for out of band operation. New CB synthesiser chips were designed to implement the new regulations, and so on. This is not to say CB to ham conversions can't be done, and I've seen advertisements offering kits and info on how to accomplish it. I think most the kits involve adding an extra mixer and oscillator board. Look in the back of electronic and CB magazines for info on who sells these kits and plans.

Thomas
ars KI4N

129. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: smason@agt.net
Message-ID: <30ec4d95.101599064@news.agt.net>
Source record: 108421

On 4 Jan 1996 18:32:18 GMT, mjsilva@ix.netcom.com(michael silva) wrote:

>>...What's the big deal, haven't seen anyone
>>complain about Yaesu, Kenwood or Icom not giving their stuff away.....
>
>The "big deal" to some of us is that the tuner was presented in a
>build-it-yourself article, not in a product review. It's disengenuous
>to publish a schematic for the whole world to see and at the same time
>decide the source code must be kept secret.

Ditto for the circuit board artwork. Even though I might have been tempted to purchase the pre-programmed chip (I don't have a programmer for that particular device) I certainly wouldn't pay $35 U.S. for the board when I can etch my own. I actually DO enjoy etching my own boards, but not designing the artwork.
It seems to me that the author is definitely trying to make a few bucks by witholding the artwork/source code.

Steve VE6STV

130. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan5.154927.25538@ke4zv.atl.ga.us>
Source record: 108422

In article <NEWTNews.820779591.22006.Gary@Techstds.al.bst.bls.com>
Gary@Techstds.al.bst.bls.com writes:
>The stimulating exercize, in my opinion, is developing the algorithm to
>iterate to the match (with the L network, there's only one). I had thought
>that both the phase and magnitude of the impedance (seen by the ATU) would be
>needed to drive the iteration routine for both the capacitance and inductance.
>Not having the 6811 source code, I don't know how the ATU in the article
>works, but it looks like only the SWR is used. One can only guess that a
>'brute-force' search is used until an acceptable value of SWR is found.
>
>So, when I saw the article, the first thing I looked for was the source code.
>When I saw that it wasn't available, I was no longer interested.

I reread the article carefully last night. From the author's description,
the algorithm *is* just a brute force search. First the L is stepped for
lowest VSWR, then C is stepped for a lower VSWR. When the VSWR falls
below 1.5:1, the tuner calls it a match and quits. If that search fails,
the C is switched to the other side of the L, changing the order of the
L network, and the brute force search of C is repeated.

That seems horribly crude, and only works at all because the L network
only has one possible match combination. That procedure wouldn't work
with a T or pi tuner, but it does eliminate the need for vector phase
measurement. The assumption seems to be that as long as the VSWR is
below 1.5:1 the no-tune transceiver will be happy so that's "good enough".

I too was disappointed by the lack of source code, or at least a commented
pseudo-code explaining the algorithm. But now that I've figured out that
this is just a brute force system, I'm not so concerned. I'm sure most of
us could program something better.

More interesting now would be a circuit that would yield both vector
magnitude and phase for the uP to work with. Then we could optimize
the network quickly for *best* match. Anyone have any candidate
circuits that could be retrofitted to the design?

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

131. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan5.155722.25640@ke4zv.atl.ga.us>
Source record: 108423

In article <4ch6fi$hr7@ixnews8.ix.netcom.com> mjsilva@ix.netcom.com(michael silva) writes:
>In <4ccgnl$kav@service-2.agate.net> John Wilcox/NS1Z
><ns1z@rumford.agate.net> writes:
>>...What's the big deal, haven't seen anyone
>>complain about Yaesu, Kenwood or Icom not giving their stuff away.....
>
>The "big deal" to some of us is that the tuner was presented in a
>build-it-yourself article, not in a product review. It's disengenuous
>to publish a schematic for the whole world to see and at the same time
>decide the source code must be kept secret. In fact, some magazines
>require that source code be made available, via BBS or other methods.
>The greatest value in DIY articles is probably not in the constructing
>of exact clones, but in seeing how somebody else solved a problem, and
>in providing a starting point for trying something new. Many people
>might be interested in trying a similar circuit with a different micro
>installed, or in running the tuner from a PC, just as others would use
>different relays or other components. However, with the micro
>presented as a black box, we learn nothing of how the device works. We
>are presented with a hardware schematic but not with a software
>schematic. For those who say that it's unlikely that anbody would
>program their own chip, I'd just say look at the number of assemblers,
>compilers and programming devices on the market, compared to, say, the
>number of sources for toroid cores. The ability is there.
>
>I believe one of the authors has written that they did offer a detailed
>flowchart when they submitted their article, but QST chose not to print
>it. If that is the case then I think the authors are partially
>exonerated and QST is partially to blame. As I said, if they wanted to
>do a product review they should have called it a product review.

Well said, Mike. You've described the problem with this article in
a nutshell. I'd suggest that the majority of people who are interested
in construction articles never exactly duplicate the project as described.
Instead they take *ideas* from the project to incorporate into their own
projects, or simply read the article to find out how something works,
IE purely for educational value. The article as published serves neither
purpose well. There's nothing novel or particularly instructive about
a switched L network. All of the novel and appealing features of this
article revolve around the *auto* part of the autotuner. And that's been
kept a secret black box.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary

534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

132. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4clnni$kov@newsbf02.news.aol.com>
Source record: 108350

In article <820873939.12121@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) writes:

>
>For example, say the outboard unit used a 6 MHz carrier oscillator,
>fed to a balanced modulator, in order to produce a 6 MHz double
>sideband signal. If that signal was clipped, won't the harmonics
>fall on 12 MHz and above? If so, the clipped signal could be
>filtered with an L/C low-pass filter, then converted back to
>baseband (audio) using a product detector and the same 6 MHz
>oscillator. This would eliminate the cost of two expensive filters.
>
>I've never seen this done, so maybe I'm overlooking something.
>Anyone know of a reason it won't work?
>
>73,
>Jack WB3U

It will work.

133. computer interface for qrp plus

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: paul1@wizard.ucs.sfu.CA
Message-ID: <9601061210.AA13272@wizard.ucs.sfu.ca>
Source record: 108351

I recently spoke with Bruce at Index labs and he said that he
had heard that someone had built an interface for the qrp plus.

Dose anyone know anything about this?

cheers, Paul
ve7cqk
email: paul1@wizard.ucs.sfu.ca

134. Re: Scheduler With Output Function

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: CBAX63A@prodigy.com
Message-ID: <4ckn2e$vui@useneta1.news.prodigy.com>
Source record: 108352

Call for catalog of company that sells numerous inexpensive computer
driven interfaces an software:
HOME AUTOMATION SYSTEMS INC
800-762-7846
-
ROLAND S GETER SR
CBAX63A@prodigy.com

135. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan6.001036.28036@ke4zv.atl.ga.us>
Source record: 108353

In article <820873939.12121@pinetree.microserve.com> jackl@pinetree.microserve.com (WB3U) writes:
>
>Rf speech processors normally use the SSB signal already present
>inside a transmitter. They clip this signal, then filter it with
>a second IF filter. In a 9 MHz IF, the harmonics generated by the
>clipping process fall around 18 MHz, 27 MHz etc., so they're easily
>removed by the second filter. I'm beginning to wonder if this is
>really necessary though, particularly if the processor is an outboard
>accessory.
>
>For example, say the outboard unit used a 6 MHz carrier oscillator,
>fed to a balanced modulator, in order to produce a 6 MHz double
>sideband signal. If that signal was clipped, won't the harmonics
>fall on 12 MHz and above? If so, the clipped signal could be
>filtered with an L/C low-pass filter, then converted back to
>baseband (audio) using a product detector and the same 6 MHz
>oscillator. This would eliminate the cost of two expensive filters.
>
>I've never seen this done, so maybe I'm overlooking something.
>Anyone know of a reason it won't work?

I haven't worked through the math, but I think the problem is
with clipping DSB. If the clipping isn't perfectly symmetric,
IE both positive and negative frequency, some horrible *in-band*
distortion products are likely to be produced.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

136. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan6.180544.1100@ke4zv.atl.ga.us>
Source record: 108354

In article <DKMBDx.oB@ricks.edu> griffithj@ricks.edu (James Griffith) writes:
>In article <4c6es2$394@mgate.arrl.org>, ehare@arrl.org says...
>>griffithj@ricks.edu (James Griffith) wrote:
>>>>QST is sold at most major news stands and magazine racks now. You
>might
>>>want to try that. The artical is not that big a deal. It's an
>>>advertisment so its writer can make money. It would be difficult to
>>>duplicate without buying their kit. QST is going same way Popular
>>>Electroncs went years ago, selling kits with articles.
>>
>>
>>I don't kwow if I would go *that* far. First, ARRL doesn't sell the
>>kits; the authors do. From the feedback we have received from readers,
>>most readers *prefer* construction articles that have kits. And, in
>most
>>cases, even if a construction project has a kit, the builder can still
>>dead-bug it, if he or she chooses. This tuner article is almost an
>>exception to the rule, in that it requires a part that is available only
>>from the author. However, the author will gladly sell the
>>progrmammed IC only for those who want to locate all the other
>>parts themselves. (I wonder if *anyone* will take him up on the
>>offer; I want the kit! :-)).
>>
>I don't mean to sound like a "wet blanket", and I don't know your age,
>mine is 52. But, I remember the exciting time when, with almost nothing
>at all, one could get on the air with something he or she built. Or, if
>you were intrested in just building an electronic project from Ppopular
>Electronics, you were able, because at the age of 12 or 13 you didn't
>have the money to by that one part that could only be bought from that
>special place, who ever or were ever it might be.

Well, of course you still can. But getting on the air with almost nothing
at all leaves you with almost nothing to show for it. That is to say, your
capabilities are comensurately limited. It's always been true that if you
wanted to operate at the upper levels, you had to commit greater resources.
In the 50s and early 60s that meant many vacuum tubes, today it only means
a handful of ICs. But it still isn't almost nothing.

High power tubes, and their power supplies, were a challenge to the
builder of yore. Today, most things can run off a 12 volt source, IE
a car battery. That's much better for the 12 year old since he's less
likely to kill himself, and it's usually *cheaper* too. ICs (cheap
ICs) allow today's builder to do things that would have been thought
beyond the reach of an amateur builder of the 1950s. All today's
builder needs is the *information* about these ICs, how they work and

how to apply them. A project which treats them as magic boxes is doing
the reader a disservice. (Sometimes a designer *can* treat such parts
as black boxes, but he needs to understand how and why he can do so,
IE he needs the transfer function of the part. That's the algorithm
of the tuner in this case, and that's being withheld.)

>Have you ever longed to build something electronic at the age of 12 or
>so, and had no money, but the author gave you a way to do in in the
>article, like the code for the chip, or the turns count and size of the
>coil.

Well, lets be fair here. What the author is charging for the programmed
chip is very close to what it would cost you to buy a blank chip and
program it. Having the source code wouldn't measurably reduce the cost
of this project. But it would increase the *value* of the project as an
educational experience. What might reduce the cost of the project would
be the ARRL furnishing an etching template, as they do with most QST
construction projects. While $35 for an etched board isn't overwhelming,
it is a significant cost factor. Of course you could point to point wire
it and save that $35. I think looking at cost in this article is a strawman,
however. The cost for the programmed chip, the cost for the full kit, aren't
out of line at all for an *auto* tuner. Where I fault the article is that
it gives essentially *zero* information about the *auto* part of the tuner
while concentrating on the assembly of the switched L network. There's nothing
very interesting or novel about that. Any number of tuner articles exist.
What makes this one interesting is the *auto* feature, and that has been
totally hidden from the reader.

>I believe,(This is only me talking.) and I am a member of ARRL and you
>have published 2 very popular articles I wrote, at least my fan mail said
>so, that QST is no longer a member publication devoted to ham radio, FOR
>THE LOVE OF IT, but has gone into business, targeting those people who
>would buy more magazines, (Your on the news stand now.) books, and other
>offers the ARRL has, and has geared it QST publication toward them.

I think you're being unfair here. The ARRL has, for essentially the
first time, tried to get serious about spreading the word about amateur
radio outside of the insular group of insiders (mostly greying) who've
made up the service these last couple of decades. School radio clubs
are dead (thanks mainly to the Incentive Licensing debacle, but that's
another topic), and reaching out and recruiting new blood now depends
on other means. The ARRL has put QST on the newsstand to try to reach
some of that new blood, and expose them to what amateur radio is about.
I think that's a very positive step. And the books and programs the
ARRL offers are about the best that they've ever been for the task of
educating amateurs and potential amateurs about the service and its
technical aspects. I congratulate them for these expanded publications.
They are filling a void no one else wishes to address.

>Who are those people, (Me talking again.) thay are people who never grew
>up in ham radio scrounging a part or a who rig full of parts to get on
>the air, and if the truth be known, computer have the interest of the

>young people, not ham radio. I can talk any were in the world on internet
>who needs a radio.

The people being targeted are indeed young and computer literate. Would you have them winding spark coils in their basements? The technology and focus of amateur radio have to move past that era in order to be relevant to a modern society used to technological marvels. It's true that "working the world" just to collect postal cards is no longer a challenge to most of today's technologically literate population. As a radio *game* it still holds some interest for a few, but it no longer is technologically relevant. And it has offered little actual utility for decades. Instead, we see wireless networking as a hot topic still on the cutting edge, ALE techniques looming on the horizon, and spread spectrum as a coming thing. And we also see technical curiosity as a prime motivator (as it always has been). People want to understand the technology behind the magic boxes. That's where this autotuner article fails. It *hides* the relevant technology in a black box.

>Those are the people targeted by QST. We all see the QRP articales, about
>the only rig that can be built any more, if one can find a variable
>capacitor. Have you even seen a dealer advertise a line of variable
>capacitors in QST or any were elce.

Rarely, but that's not a big problem since we can use electronic tuning today. Varactors, controlled either by a synthesizer or a simple pot, do our tuning (or we use DDS). I do fault QST for presenting mostly QRP CW articles based on elderly technology. Old parts have disappeared for a reason, there are better ways of accomplishing the task today. QRP CW transmitters *aren't* the only things we can build today. It's easier than ever to produce top notch projects today, thanks mainly to the uP and other high integration ICs. But we need the *information* in order to do so. QST has with this article begun to *hide* that information from the reader. That's a very bad precedent.

I'm also something of a machinist. In that world, precision work was horribly expensive to do when the precision depended solely on mechanical tolerances of the machining equipment. But today, thanks to the uP and CNC, even sloppy equipment can be programmed to do good work by using the power of the uP to *compensate* for the slop of the tooling. So instead of spending tens of thousands for a Bridgeport, we can use a cheap Tiawan mill and add CNC to it which can compensate for tooling hystersis. But an old time machinist can't benefit from that because he won't learn new technology. And newer machinists won't benefit from the technique unless there are publications out there *explaining* how the new techniques work.

>I have been in hard electronic repair
>for 35 years, and I can fix hundreds of things not made anymore, or will
>never be made again. Why, becasue it all gone to software, and QST won't
>publish it so we can use are new skills and try and program our EPROM or
>processor chip, we have to buy it, just like Popular Electronics.

Yeah, right on. It is the purpose of QST to serve primarily as an *educational* vehicle, to expose us to newer technologies and to

explain newer technology through examples called construction projects (old tech is adequately covered in references like the Handbook). That generally doesn't happen by publishing the Nth iteration of a QRP CW transmitter, or the Nth iteration of a Morse keyer, though there is a limited ability to expose us to newer parts with these projects. What we need instead are projects that fire the imagination, that pass on newer and better techniques, that do something novel or useful that we otherwise couldn't either afford or understand.

I can throttle back any commercial rig to do QRP CW, yet another QRP CW transmitter construction article doesn't offer me anything of value. A high performance HF modem, however, would offer something few would be able to obtain commercially, and serve to explain coding theory and signal design, construction, and deconstruction to the reader. Even if never built, such a construction article would serve a valuable purpose by explaining what goes on inside the magic black box.

>When is the last time we saw a 75 watt Novice rig in QST built and
>presented by the ARRL lab.

Probably sometime in the 1960s when such a rig was still relevant.

>Packet is the revolution for those with
>interest in computers. I can use computers, and repair them, thank you. I
>tried packet and sold it. My time is better spent on something that is
>real time then waiting on the postman.

It's true that early packet equipment was dismal (and by inertia still is in many cases), but this is a young technology, and better things are being developed nearly every day. For example, 56 kb RF modems have been available since 1987. We rarely see them mentioned in QST where 9600 baud seems new and hot (while it is really old and nearly passe). Megabit wireless networks are feasible today in amateur radio, but reading QST you'd never know that. Instead they offer us a Baycom style modem that struggles to do 1200 baud. That serves to perpetuate and reinforce the myth that digital is inherently low performance and difficult. In fact, systems only marginally more complex can perform *much* better.

Frustrated by network delay, and by the purely political reason it continues to exist (building networks is 99% politics 1% technical), amateur designers have turned their attention to the challenges of HF digital where much of the politics can be bypassed by direct realtime connections. PACTOR II and Clover II offer us performance exceeding that of OOK Morse *today*, and better systems are possible. Thanks to inexpensive DSP development platforms, like the Analog Devices EZkit, and some sound cards using the PSA chipset, we can participate as homebrewers in this exciting field. But you'd never know that from reading QST feature articles.

Reading QST, you'd think OOK Morse QRP was state of the art. Reading QST, you'd think uPs are magic black boxes you have to buy from someone already preprogrammed, even when the function is as simple as an antenna

tuning algorithm. In fact, reading QST you might get the impression that stringing a wire antenna was a major technological accomplishment.

>I, and people like me, are no longer the interest of the ARRL, or QST. I
>love ham radio. It has gotten me good jobs from the skills it has given
>me. I have talked to lots of people. Years ago thay all built something,
>today most do not even own a good soldering iron. QST know that. I, and
>the 12 and 13 year olds are no longer the target, the kit builder, and
>the buyer of new equipment is because there in no money in me and a 12
>year old. There never has been any money in me and my kind in ham radio
>because we build from parts, which there is no money in.

I think you are wrong. QST isn't after your money, but it is trying to cater to what it perceives as its readership. That's understandable for any publication. If people aren't interested in reading what is presented, the magazine accomplishes nothing. Where I think QST fails is in the role of leader. Most of us aren't aware of better ways until someone shows them to us. Most of us can't do more than solder together a kit unless someone explains how the circuitry works on a level where we can design our own. QST fails by underestimating the intelligence of their readers and catering to the LCD instead of striving to inspire the masses to excellence.

Instead of regurgitating for the Nth time that QRP CW transmitter, they should point beginners to the appropriate reference works where such things are adequately covered (unless something new is introduced in the project, such as DDS). In QST, they should be introducing the readership to newer and more relevant projects and ideas. They should serve to inspire the reader to try something newer or better than what he has done in the past. That could be an autotuner, it could be something like a small tuned HF loop (which while simple, embodies subtle principles and techniques not generally well understood). It could be a homebrew HF modem using DSP (with algorithms adequately explained), or it could be a simple quadrature exciter or receiver (such as the excellent Rick Campbell T2 and R2, they did good there). But yet another carbon copy 3 transistor QRP CW rig? I could scream.

Occasionally, I think QST should tackle a *major* project, perhaps spanning multiple issues. Such a project should address state of the art in some facet of amateur radio. That was done in the past with advanced tube receivers and SSB transmitter projects. Today such things are passe, with high performance equipment available off the shelf to address that need. But advanced digital technique on HF and VHF isn't well covered, microwave projects are for the most part limited to yet another preamp, etc. A major SOTA station design project could be very educational and interesting even if few people ever built it as described. Most construction project articles are of interest mostly for what you can *learn* from them rather than for slavishly copying the project. And most construction projects only show one subsystem of a more complex station. By addressing a total station package in a series, the reader will learn how the bits and pieces fit together into a

coherent whole, and learn something about the tradeoffs required
to integrate the bits and pieces into a functional whole. That's
been sorely missing from QST.

>We are the ones that some QST articles have made fun of because we see a
>good deal in a broken radio, and can fix it, or see the value in a pile
>of junk that know one elce can recognize, and are no longer recongnized
>by QST.
>
>That is why the missing chip code to the ATU article is importent. Not
>because you can build the unit by odering the part, but because you can
>not say, on the air, I programed the chip myself from and article in QST.

Well, I certainly agree that *understanding how it works* should be the
major goal of any construction article published in QST. Without that
knowledge, you're just an assembly line worker blindly following directions
of "insert wire, solder one", which teaches you very little that you can
apply to your own projects.

I hate making up harnesses, and hate doing point to point wiring. I'll
buy a circuit board, I'll even often buy a complete kit, rather than
put up with the hassle of searching out all the parts on my own and
hand wiring it all up. But I damn sure want to know *how it works*
in detail before I build it. I want to know if it will meet my needs,
and if not how I can modify it to do so, before I build it. I don't
want it to contain black boxes labeled "Here there be magic" inside.
I'll tolerate that from a manufactured product to an extent, though
I strongly condemn Icom for failing to include schematics and theory
of operation with their IC-706, but I won't tolerate it in something
I have to build.

I don't homebrew to save money, my time is worth more than an assembly
line worker's wages. I homebrew to get some functionality I can't get
otherwise, and I homebrew to *learn* circuit design and behavior from
the example of the project presented to me. I might tolerate this auto
tuner project if I couldn't buy one off the shelf wired and tested,
but I *can*, so the only value it holds for me is the educational benefit
of learning how auto tuners work. That's being denied me here, so I
don't like it one little bit.

Note: I don't fault the author, he's just trying to make a buck. I
fault the editors of QST for paying for and publishing this advertisement
in lieu of publishing something that would *teach* the reader something.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

137. Re: 900 MHz Security

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: TSJV87A@prodigy.com
Message-ID: <4ckoq9$tlk@usenetp1.news.prodigy.com>
Source record: 108355

Being Digital I would think that it offers some security. Since it will take time for the average listener to get equipment to decode it. The most secure is the ATT Escort that contains Spread Spectrum Modulation from what I have read. This offers another layer of security. I am sorry that I do not know a lot of specifics about these models. But if I buy a cordless for business it will be one that does Spread Spectrum Modulation techniques. It randomly transmits bits of your signal on various frequencies.

-
ERNIE K3VVV TSJV87A@prodigy.com

138. DRCP ham radio kits on WWW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: Dave'Doc'Reid <101454.3715@CompuServe.COM>
Message-ID: <4cksnt$ib0$3@mhade.production.compuserve.com>
Source record: 108356
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,uk.radio.amateur

Hi all,

a new update to the pages of D.R.Computer products
radio related kits is now available on the WWW.

http://ourworld.compuserve.com/homepages/drcp

we have an Iambic Keyer on a 1 inch PCB....
and a morse tutor on a 1 inch PCB...
and details of other developments...

Have a wander around and enjoy....

If you want more detail - I can email direct text versions for
those of you without WWW access... just ask

73 de Dave'Doc'Reid
email 101454.3715@compuserve.com
packet G0BZF @ GB7DEO (not for business)

cheers

--

Dave 'Doc'Reid Owner and proprieoter of D.R.Computer Products
Bringing radio amateurs everywhere into the digital age
Callsign G0BZF GQRP # 3677 RSGB (UK organiser of LY96BDX)

139. Need Icom R-71A circuit board

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: Jeff Hutchinson <w4pbc@digital.net>
Message-ID: <30EEE83F.45F0@digital.net>
Source record: 108357

I'm restoring a sick R-71A receiver, and need a logic board. Anyone out there with one for sale or swap? Will buy a basket-case R-71 if the logic board is okay. Vy 73, from Jeff

140. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: "C. J. Hawley Jr." <hawley@aries.scs.uiuc.edu>
Message-ID: <30EEA714.218E@aries.scs.uiuc.edu>
Source record: 108358

Gary Coffman wrote:

snip

> Upon reflection, I frankly don't fault the author at all. I think that
> it is the editors of QST who have committed a serious error of judgement
> here, and who have authorized payment of League funds for the privilege
> of printing what amounts to an *advertisement*. That's not the way it's
> supposed to work. The company is supposed to pay QST for carrying its
> ads. (I'm assuming QST paid the regular feature article rate for this ad.
> If they didn't pay, then I'm only upset by them misleading us that this
> is a real construction article rather than what amounts to a reprint of
> a kit assembly manual.)
>
> Gary

I agree with you (and others) completely. The issue here is with OUR publication QST and how we want it to be run. I think the authors are nice persons and are just taking advantage of the free advertising.
It's interesting how many have changed the subject when they reply to this position on QST and what we thought QST was about. I have gotten beat over the head with everything from "smatter...you too cheap to pay a few bucks for the three cents per hour hard work of the authors?" to "lighten up...big deal...if you don't like it don't buy it" to "there are a lot of people out there who will gain all sorts of benefit from building this kit, and if you think you're so above it go write your own code". Someone even wrote that the authors have been swamped with orders (which sounded like an endorsement of the decision to publish the article). Well, I'm not surprised. Five full pages in the magazine is a lot of coverage.
Well, none of these arguments are the issue. There is nothing practical about the real issue, and nothing needs to be solved for me. This is about the concept of a member publication of an organization run for the sake of the art. If no one is interested in the art of amateur radio to write an article with no strings attached for the sake of sharing the knowledge, then no one is interested. Period. I don't think that the editors should approach that problem by changing the rules (I know that I am assuming that I we agreed on some rules....maybe not).

Chuck, KE9UW

141. Re: Converting Cellular to 902MHZ band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: Michael Brown <mbrown@lilly.com>
Message-ID: <1996Jan6.152610.7342@inet.d48.lilly.com>
Source record: 108359

A local ham told me just the other day that he took an old cell phone apart, pulled out the final amplifier and is planning on using it for 900MHz. I don't have the details, and we haven't put in on the spectrum analyzer yet, but it should be able to be done.

Michael Brown
KG9DW

142. QST Antenna Tuner Kit-First Impressions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: garland@ohstpy.mps.ohio-state.edu
Message-ID: <1996Jan6.185503.8669@ohstpy>
Source record: 108360

Having started all the commotion about the QST automatic tuner article with my posting several weeks ago, I decided to buy the "kit" and take a first-hand look at the product. I haven't wired it yet, but thought I'd offer my first impressions on the unassembled components and documentation, since there seems to be a great deal of interest in the tuner. What arrived is, in fact, a full-fledged kit, with an eleven page assembly manual that includes a parts list, parts placement drawing, suggested front panel layout, and carefully drawn sketches on wiring up the toroids. A schematic is included, as is a block diagram and a front panel wiring diagram. The manual is nicely written with step-by-step instructions that fall only slightly short of Heathkit quality.

Predictably, no information is given about the software, but it is noted that future upgrades will ba available for about $10, with trade-in of the old 68HC11 chip.

The parts are packaged nicely, with the eight toroid cores comprising most of the weight. All the components are off-the-shelf pieces, that one could buy at Digikey or similar suppliers. Two SO239 connectors are also supplied.

My only quibble with the kit is the printed circuit board. The board itself is of high quality. It is double-sided, with thru-plated holes, green solder-masking, and silk-screened component outlines shown in white. My concern about the board is that the large majority of the traces seem to be extremely thin. I couldn't measure them, but I'd guess a maximum width of 10 mil, and probably less, perhaps even 6-7 mil. (all the relay control lines are wired this way.) Further, the pad sizes seem too small
relative to the holes in the pad. I'm not an expert at PCB layout, but I'd think that a pad should have a minimum of 10-15mil of metal around each hole. The majority of holes on the board have significantly less metal than this. In fact, a majority of the holes were drilled slightly off-center in the pads, so that there is no metal at all on one side of the hole!

IMHO it is regretable that the board was laid out this way, since components are quite widely spaced and significantly thicker traces could have been specified. I'm worried that the slightest flexing of the board (as might occur in mobile service) may break hairline traces. I'm also worried that pads may come loose at soldering temperatues, since there is so little metal adhering to the board. If you're thinking about buying the kit, you might want to keep these points in mind. It's a shame, really, because a great deal of care and thought went into putting the kit together.

More, when I have the kit up and running.

Jim W8ZR

143. Help with MC68HC705C8 Programming

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: rlong@magnus.acs.ohio-state.edu
Message-ID: <rlong-0601961256220001@slip3-3.acs.ohio-state.edu>
Source record: 108361

Hello,

I want to program a OTP (one time programmable) Motorola
microcontroller MC68HC705C8 using a circuit given in the
Motorola manual which transfers data from a 2764 eprom into
the controller.

The question is the data book is unclear about the programming
voltage (Vpp). At one place it says 16 V maximum but it never gives
a typical or 'correct' voltage? 12 Vdc? Is 13.8 Vdc ok?

Thanks for any help.

Ron, w8gus.

144. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.820972088.8581.jwicklun@mycroftxxx.halcyon.com>
Source record: 108362
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <820869685snz@microvst.demon.co.uk>,

>
> Does anyone have a suggestion on where to obtain the Service Manual for
> an H-P 8620C. I find that after lying unused for 6 months mine is now
> stone dead except for the illuminated power switch. Even the fan is
off.
> Are there any other fuses apart from the line fuse near the IEC
connector
> or will I need the schematic of the PSU?
>
> Also, has anyone married an 8620C (eg with 86290B) to a Tek 7L18?
>
> Regards,
> --
> Tony - G3SKR / AA2PM email: tgold@panix.com
>
tgold@microvst.demon.co.uk
> packet:
g3skr@n0ary.#nocal.ca.usa.na
>
Have you tried HP. I've purchased photocopies of old HP gear direct from
HP. It's not cheap, but it is reasonable. I don't have the number
handy, but if you have trouble finding it email me, and I'll look it up.
HP also has a web site that probably has phone numbers.

73 de KI7RH (Jay)
email: jwicklun@halcyon.com

145. Re: Low Noise Linear Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4cmb8s$6b@morgan.vf.mmc.com>
Source record: 108363

A friend of mine used to design phase locked oscillators for communications satellites. These oscillators operated in the 400 or 500 MHz range and used a very high Q cavity.

The power supply to the oscillator that they used was made by using a couple of series zener diodes with a fet as the "load resistor". This provided the reference voltage to a current source that provided the power to the oscillator. The key was the zener diodes. The ones they used have very sharp knees and were made by TRW at the time. I'm not aware of TRW still being in the business but other companies provide sharp knee zeners that may provide the characteristics needed. My friend said that the zeners had a very steep slope of voltage vs current which resulted in a very stable reference source.

There are other parameters to consider obviously since at least one design of a noise bridge back in the early 70's used a zener as the noise source.

73, Harry, W3IIT

146. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <820988469.19749@pinetree.microserve.com>
Source record: 108364

w8jitom@aol.com (W8JI Tom) wrote:

>The Vomax was a split band audio processor which is superior to RF
>processing. I still use a modified VOMAX with my 751A.

Tom, could you elaborate on this? I was surprised by your statement, given the 8 dB or so improvement possible with RF processing. Of course, I can see how splitting the audio spectrum to enable effective filtering of harmonics could be as effective, but not more so. BTW, I've missed the articles on the split band approach due to two absences from the hobby. If the explanation is complex, I'll try to round them up.

>Wes N7WS had a nice article in some magazine years ago, it was good
>enough to be copied (hopefully he was compensated) and sold by two
>other companies.
>
>I see Gary's point. If an unfiltered DSB signal is clipped and re-
>mixed to audio, it will have extra unnecessary distortion products in
>the output.
>But I have no feel for the level.

I thought about that too, but I don't see how the distortion products could fall in the RF passband. For instance, let's say the balanced modulator is operating at 6 MHz and that it's modulated with a 1 KHz tone. The output will be two carriers (DSB), one at 5,999 KHz and the other at 6,001 KHz. What combination of those two carriers produces a distortion product that falls near the two fundamentals?

Incidentally, there was an RF processor showcased in the October '95 issue of CQ. It's made in by GFS Electronics in Australia and it's supplied on a small PC board, intended for internal mounting. According to the short description, it connects in series with the microphone audio. Looking at the picture, there does not appear to be a crystal filter on the board. Anyone know anything about this unit?

73,
Jack WB3U

147. Re: Profitting from QST articles (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.820971250.5844.jwicklun@mycroftxxx.halcyon.com>
Source record: 108365

In article <n7ws.14.005DB4EC@azstarnet.com>, <n7ws@azstarnet.com> writes:

> I wrote and had published in the September 1979 issue of Ham Radio
> Magazine an article titled "Split-band Speach Processor". I was pleased
> to have it be the lead article and be featured on the cover. The
> article ran eight pages and I was paid $350. On a time and materials
> basis, I probably made well under a dollar an hour. The article
> included complete schematics, PC board artwork and parts placement
> drawings as well as design equations. I paid a friend $100 to lay out
> the boards and tape the artwork. This was in the days before word
> processors and auto-routers BTW. I offered no kits or PC boards.
>
> Shortly after publication, I began receiving requests for PC boards and
> I was forced to reply that I did not have a supply. I casuall mentioned
> this to another friend who allowed that he would put up the funds to
> have some made and we could sell them and split the profit(?). So off
> we went and ordered 100 sets of boards at a cost of a shade over $700.
>
Interesting story Wes, I would guess that some magazines are more ethical
than others. I also notice that may companies put Copyright notices on
their PCBs, and I have adopted that practice. I don't know how much
protection that would provide, but its worth a shot....

73 de KI7RH (Jay)

148. RCA's Radio Central

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: Christopher Kelly <mediadsn@interport.net>
Message-ID: <30EF2176.16E6@interport.net>
Source record: 108366

I'm looking for information on RCA's Rocky Point Facility "Radio Central"
pictures and images or possible leads would be greatly appreciated.

--
Christopher Kelly - Digital Media Design

http://www.interport.net/~mediadsn
mediadsn@interport.net

149. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4cmp0n$2fb@newsbf02.news.aol.com>
Source record: 108367

In article <4ck2p5$kup@pacific.mps.ohio-state.edu>, James Garland
<garland@ohstpy.mps.ohio-state.edu> writes:

>That's a great idea, Jack, but I'm afraid you're not the first to think
>of it. As I recall, there were several audio processors on the market
>during the 70's which used the basic idea: mix an audio-derived DSB
>signal up to an IF (usually 50-500KhZ), clip it, then mix it back to
>audio. ETO sold one of these units, if I remember correctly, as did
>VOMAX. I also recall reading a do-it-yourself article on the concept in
>one of the ham mags -- probably Ham Radio.
>Jim W8ZR
>
>

Hi Jim,

The Vomax was a split band audio processor which is superior to RF
processing. I still use a modified VOMAX with my 751A.

Wes N7WS had a nice article in some magazine years ago, it was good enough
to be copied (hopefully he was compensated) and sold by two other
companies.

I see Gary's point. If an unfiltered DSB signal is clipped and re-mixed to
audio, it will have extra unnecessary distortion products in the output.
But I have no feel for the level.

Splitting into sub-bands, processing, filtering, and re-combining is
always the best approach. As long as correct phase between signal channels
is maintained. Hopefully Wes will show up, since he designed a system.

73 Tom

150. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.820970803.4385.jwicklun@mycroftxxx.halcyon.com>
Source record: 108368

> >
> > V130LA10A
> > V130LA13A
> > V130LA20A
> > V130LA20B
> > V131DB40
>
Guess that I missed the initial posting, but according to a somewhat old
GE MOV book, 2nd edition:

THe V130 parts are rated for 130VAC or 175VDC continuous, and clamp at
between 184 (Min) and 230V (measured with 1ma current).

The 'LA10A is rated 30Joules/peak current 4000A
The 'LA20A is rated 50joules/peak current 6000A
The 'LA20B is rated 50joules/ " " "

The difference between the 20A and the 20B seems to be that the 20B has a
somewhat better spec on clamping resistance and slightly lower clamp
volt.

My book doesn't show the other two parts, but I would guess that the LA13
is inbetween the LA10 and LA20.

If anyone would like, I could fax a copy of this page of the book to you.

73.....KI7RH (Jay)

151. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4cn0lc$dp7@hpscit.sc.hp.com>
Source record: 108369

In article <1996Jan5.154927.25538@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>
>More interesting now would be a circuit that would yield both vector
>magnitude and phase for the uP to work with. Then we could optimize
>the network quickly for *best* match. Anyone have any candidate
>circuits that could be retrofitted to the design?
>
>Gary

There have been a handful of articles in ham publications over the years on automatic antenna tuners and most have used a standard design of a phase and magnitude indicator. This standard design is very similar to wattmeter designs that involve passing the center conductor of a transmission line thru a big toroid to sense line current, then take the dot product of it with the line voltage (easily sensed with a capacitive voltage divider). By a slight rearrangement of things you can instead get an indication of phase (capacitive or inductive) and magnitude (greater or less than z-zero). The resulting device is sort of a cross between a wattmeter and a VSWR meter, in terms of constructional characteristics.
Anyone have a non-obscure article citation that describes one of these?
A dumb old analog control circuit using one of these phase/magnitude sensors can run rings around most VSWR only circuits, even if they use a secret digital algorithm. I know of a commercial tuner that could lock up in less than 1/2 second to any matchable load, without presetting from a look up table. Didn't even have a microprocessor either. I don't understand all the excitement about the QST article. I wouldn't want the design if it was free.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

152. Re: Ten Tec 2M Transceiver Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8209313101901@lss.humnet.humberc.on.ca>
Source record: 108370

> Does anyone knwo if Ten Tec ever intends to produce this kit or is
> it permanently "temporarily discontinued" ?
>
> Thanks.
>
> --
> Tom Maszerowski
> tom_maszerowski@mc.xerox.com
>

In recent correspondence with the TenTec "T-kit" marketing folks
I was told that the 2-meter transceiver kit should be available
within the next month or 2. (They say that they will not release
a product until it is thoroughly "run through the mill"...I guess
they had some bugs to work out from this one !)
You might be interested to know that the same person tells me that
there will be a 6 meter version of the kit to follow shortly.
Interesting !

CUL...

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

153. Re: CMOS SUPERKEYER II CURRENTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: tomz@premier1.net
Message-ID: <4cmpim$2hn@premier1.premier1.net>
Source record: 108371

> It would be interesting to hear from others that make similar
> Mine is probably has the first firmware release as I built it shortly
>after the article was published in November 1990 QST.

I would Like to build up one of these keyers. I have the basic info on it
from the book but need to get the programed part or a copy of the file to
program the part with. If anyone has the contact information for the auther
please pass it on.

Thanks.

154. Re: Help with a phonetap! - phone.txt [01/01]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-06 00:00:00 UTC
From: Geert.Pirens@ping.be
Message-ID: <4ckn5l$lg8@ping1.ping.be>
Source record: 108372

[No readable article body recovered]

155. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <4cnhld$a7$1@brisbane.DIALix.oz.au>
Source record: 108274

From what I've read, the double sideband when clipped (hard) generates harmonics at the double freq etc which remix with the original in all the possible combinations. Unfortunately the opposite sidebands of the fundamental and the first harmonic mix and trash each other before either a: going thru the side band filter or b: being detected back to audio.

The result is no better than audio clipping.

What I fail to understand is why designers use such extreme clipping to actually make the harmonic generation worse. The b-e junction is often used for this purpose, whereas I would have thought something a bit 'slusshy' would have generated less clipping/mixing/hash?

Murray Kelly. vk4aok

156. Re: Ham Gods: interesting questions on the nature of Hetrodyning/Spectrum Analyser guts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <4co2ng$ki9@proffa.cc.tut.fi>
Source record: 108275

Andy Green (fj91@dial.pipex.com) wrote:

> Our company is looking at producing an inexpensive
> Spectrum Analyser, from as near DC as we can get :) to
> 1GHz or so.

> Things I know:
>
> * We need to use hetrodyning for the same reasons as radios
> * We may need to have multiple mixer 'channels' to
> deal with the enormous frequency range,
> as varactor-tuned VCOs have limited range

If you put the first IF above the input range (say 1.5 GHz) then the
VCO tunning range is less than an octave (1.5 GHz - 2.5 GHz), which
can be tunned with a single VCO. However, there can be phase noise problems
with such a wide range.

> * If I feed the same frequency sine wave to the RF and
> LO sides of a mixer, I know I get double the frequency
> (ie, the second harmonic). But the rules of mixing
> seem to indicate I will also get some kind of component
> at DC, ie f+f=2f, and then f-f=0.

If your mixer really operates as a four-quadrant multiplier (such as the
Gilbert-cell at proper signal levels) you get

sin(a)*sin(b) = 0.5*(cos(a-b)-cos(a+b))

if a = b, that is same frequency and same phase, we get

sin(a)*sin(a) = 0.5*(1-cos(2a))

that is a DC term and a signal at twice the input frequency.

However, if you are using a square wave as LO or are using a switching type
mixer (such as overdriven Gilbert-cell in NE602 or a diode ring mixer
such as SBL-1), you have strong responses also at 3f, 5f, 7f etc.
This is tolerable for a ham-band-only direct conversion receiver, while
you can use band-pass filters at the RF-port, but it is definitely not a
nice thing in a spectrum analyzer without tracking input filters.

> Assuming you are not
> already choking on your beer with laughter at this
> newbie blunder, why then does one need a detector? Why
> can't I run the LO at the frequency I'm interested in,

> slug the mixer output with some brutal filter that
> suffocates anything past a few Hz and accept the result
> as reflecting the RF energy at the frequency of
> interest?

You can do this, but then you have to accept that the sensivity and/or dynamic range will be poor. In addition to the odd harmonic response problem, there are all the same problems as with direct conversion receivers. A good article is "Improving Direct Conversion Receiver Design" by Nic Hamilton, G4TXG in "Radio Communication" (published by Radio Society of Great Britain) April 1991 pp. 39-44).

Few of the problems are:

* all of the required gain (80 - 120 dB) is on a single frequency (300 Hz - 3000 Hz) after the mixer. At audio frequencies, this will cause some microphonics and hum pick-up (50/60 Hz + harmonics). In a spectrum analyzer, the frequency response should extend down to DC. 80 - 120 dB DC-gain is something to avoid ! You can get laser trimmed instrumentation amplifiers with 50 uV input offset and 0.25 uV/C temperature drift, but they are not cheap.

* The LO-signal will eventually leak into the RF-port (by direct radiation or by leakage through the mixer LO-port to RF-port and then reflected back if there are any mismatches in the input stages. In a direct conversion receiver, this will cause some adverse effects, RF-hum pick-up etc. In a spectrum analyzer, this is a more serious problem. The mixer output there is a DC-voltage proportional to the RF-port signal, which is in phase with the LO-signal. You get a DC-voltage proportional to the LO-leakage ! You could get away with this by using a harmonic mixer and drive it with f/2, but there are spurious responses on other frequencies.

* In many mixers, the noise figure deteriorates at low frequencies due to 1/f noise.

> (is it 'cos the output of the mixer is
> AC-coupled internal to the mixer? :( )

The Gilbert-cell mixer is a balanced construction, so you can get a differential voltage between the collectors. However, I have not seen any specs for the bias stability of these devices. Even if you could get a good DC-amplifier, you still need some active circuits to compensate for the mixer drift.

In an article by John C. Reed "Spectral Measurements the Hard Way", in QEX July 1995, pp. 16-20 (published by the ARRL), a spectrum measuring device is described with first IF at 25 kHz. This will overcome most of the problems caused by DC-amplification in direct conversion spectral measurement. Due to the principle of operation, it will have a response both 25 kHz below and 25 kHz above the LO frequency. This should not be a problem if you are interested only in harmonics of a signal source, but can be problematic when doing

narrow bandwidth measurements from a continuos spectrum.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

157. Power Supplies FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: steveclby@aol.com
Message-ID: <4cp3ot$17v@newsbf02.news.aol.com>
Source record: 108276

For Sale:

(2) ELPAC OLV30-12 Power Supplies, 12v, 4.0A (Adj. 4v,6A.
to 28v, 1.7A.) With Remote Sensing, (Instructions/Spec. Sheet
Included)

Guaranteed Specs:

1. Line Regulation: +/- .1% Output For
+/- 10% Input Variation

2. Load Regulation: +/- .1% Output for No Load
to Rated Load

3. Ripple: .1% P-P Output For
No Load to Rated Load

4. Ambient Temperature: 0-55 degrees C

Input: 120vac or 240vac

I'm selling the (2) units together. One has been wired for
120VAC and is putting out 12V. The other unit appears to have
been worked on and the AC cord has been removed. It may or
may not work, so I'm selling it as is. $25.00 plus shipping
for both.

Also available:

Variac V10-G3/POWER SUPPLY in steel cabinet with whisper
fan and Simpson DC volt and amp. meters. Marked "General Radio"
on handwritten tag inside case. 115v. Input 10a. 50-60 ~
I checked the output with a meter and it seems to range
from 1 or 2v. to approx. 30v. Dial is calibrated from 0 to
130. It appears to be set up as a battery charger or transformer
as it has (2) heavy output leads with battery style spring
clamps. $75.00 plus shipping (heavy)

Thanks for your consideration,

Steve

158. INFO on Dumont 301-a oscilloscope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: duan klettke <dklettke@direct.ca>
Message-ID: <4cns5a$7a@grid.direct.ca>
Source record: 108277

I have aquired a Dumont type 301-A Oscilloscope (ser. 6X81).
If anyone has any info on this scope, ie. schematics,manual etc. I
would very much appreciate you contacting me.
Thank you.
Duan

159. E-V Microphone FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: steveclby@aol.com
Message-ID: <4cp1u8$ic@newsbf02.news.aol.com>
Source record: 108278

For Sale:

ELECTRO-VOICE #664 Variable-D* Dynamic Cardioid Microphone, Variable Impedance Wired HI-Z, with original box. Has boom mount attachment (permanent) and includes adjustable boom (Appears to have been made from an adj. desk lamp base). Appears to be in VG-EX cond. Cable also included.

I don't know the value of this mic and would appreciate your input or offer.

Thanks for your consideration,

Steve

160. FS. HP141T with 8552B IF UNIT.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <4cploo$53u@brickbat.mindspring.com>
Source record: 108279

Asking $500+Sh.
Works great and it is in very good condition.

Pieter Ibelings
AC4OP

161. Re: Making PC boards from laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: ko2e@Pko2e.capital.net
Message-ID: <NEWTNews.821060140.16573.ko2e@Pko2e.capital.net>
Source record: 108280

I jumped in the group late and missed the original posting. Whats the story about laser print / circuit boards. I have used Tek Film with fair results. Please let me know... Ernie..

162. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: gmfoster@cpcnet.com
Message-ID: <177cc$d1339.97@luzskru.cpcnet.com>
Source record: 108281

rkarlqu@scd.hp.com (Richard Karlquist) wrote:

>In article <1996Jan5.154927.25538@ke4zv.atl.ga.us>,
>Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>>
>>More interesting now would be a circuit that would yield both vector
>>magnitude and phase for the uP to work with. Then we could optimize
>>the network quickly for *best* match. Anyone have any candidate
>>circuits that could be retrofitted to the design?
>>
>>Gary

Due to all the intrest in the QST antenna tunner article I have generated a list of related articles I have on file. If any one has any others not listed I'd like to hear about them and try to obtain a copy.

Electronics Dec 1951 "Automatic Impedance Matcher" by Virgil True This is a servo driven circuit that uses the Phase Magnitude detector that was standard in commerical military applications for years to come.

Qst July 1952 "A Phase Detector for RF Transmission Lines" by Robert Mezger W2BLL A description of the Phase detector with vector diagrams ect.

QST August 1952 "Automatic Tunning of the Antenna Coupler" by Walter A. Knoop. This is a stab of an Auto tunne for a link coupler for ballanced lines. Uses a phase detector and addresses the problem of the link keeping the circuit from exact reasonance. Serries capacitor in serries with the Link. Inresting reading for those of you using balanced feed.

CQ December " 1952 "The True Matcher" by Capt. R. R. Hay USN W4LW This is a description of a phase magnitude indicator.

CQ July 1953 " Additional Notes on the True Matcher." by Capt R.R. Hay Capt. USN W4LW

CQ January 1954 "Problems in Automatic Antenna Tunner Design" by Capt R.R. Hay USN W4LW.

CQ June 1954 "The Automatic Match" by Capt R.R. Hay Capt. USN W4LW. Capt Hay puts his Phase magnitude detector to work driving servos to match his system.

CQ Feb 1956 "RF Phase Sensing Unit and Impedance Magnitude Indicator" M.K. Brooks and W. Brooks

QST Dec. 1956 "Automatic Antenna Tunning for the Amateur" by Lois Hutton W0BQF. He did it right way back then.....Look Ma no Transistors.....My words not his

CQ Jan 1962 "Building and Using the Coax Phase Detector" by David Geiser Wa2ANU. Good article on building a phase detector principle.

CQ August 1962 "How The Coax Phase Detector Works" by David T. Geiser. A folowup article digging in to the theory of an earlier constructon article.

73 July 1979 "Tennamatic: An Auto-Tuning Mobile Antenna System" B.F. Brown W6TWW This isn't a tunner per say but resonants the Antenna. Is still used on the popular screwdriver types of antennas however you must move the coil to the proper band as it ignores the impedence. Great article.

QST April 1980 "A T-Network Semi-automatic Antenna Tunner" Bill Imamura JA8GW This is a VSWR only driven tunner.

QST July 1980 "The Impedance Match Indicator" by David Geiser " WA2ANU Another tutorial on the phase and Magnitude detector with a good construction article.

QST October 1982 " Mobile Antenna Matching --Automatically!" Don Johnson W6AAQ This is a re write of the July 1979 "73" article. Also both articles are in the book"40 +5 years of HF Mobileing" by Don Johnson. Published by World Radio .

CQ April 1987 "CQ Reviews the Icom AH-2 HF Mobile Antenna System" Lew McCoy W1ICP This is a review but includes the schamatic. Notice it is Phase and Impedance driven. Very similar to the current QST article. If anyone looks at this circuit I'd like thier opinion on the purpose C165-167. Is this only so they can advertise it as a pie tunner?

QST January 1996 "An Automatic Antenna Tunner: The AT-11" by Dewayne Kincaid WD8OYG This is the first digitial based tunner article I have on file. (Except for the review if the Icom AH-2) . It is also the first construction article that witholds information on the operation of the unit. It is also the first construction article that gives the project a product type name the "AT-11" Lots of firsts here and not all of them good IMHO>

Garry WB0NNO

163. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: gmfoster@cpcnet.com
Message-ID: <177cc$d141.101@luzskru.cpcnet.com>
Source record: 108282

rkarlqu@scd.hp.com (Richard Karlquist) wrote:

>In article <1996Jan5.154927.25538@ke4zv.atl.ga.us>,
>Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>>
>>More interesting now would be a circuit that would yield both vector
>>magnitude and phase for the uP to work with. Then we could optimize
>>the network quickly for *best* match. Anyone have any candidate
>>circuits that could be retrofitted to the design?
>>
>>Gary

>There have been a handful of articles in ham publications over the
>years on automatic antenna tuners and most have used a standard
>design of a phase and magnitude indicator. This standard design
>is very similar to wattmeter designs that involve passing the center
>conductor of a transmission line thru a big toroid to sense line
>current, then take the dot product of it with the line voltage
>(easily sensed with a capacitive voltage divider). By a slight
>rearrangement of things you can instead get an indication of
>phase (capacitive or inductive) and magnitude (greater or less than
>z-zero). The resulting device is sort of a cross between a wattmeter
>and a VSWR meter, in terms of constructional characteristics.
>Anyone have a non-obscure article citation that describes one of these?
>A dumb old analog control circuit using one of these
>phase/magnitude sensors can run rings around most VSWR only circuits,
>even if they use a secret digital algorithm. I know of a commercial
>tuner that could lock up in less than 1/2 second to any matchable
>load, without presetting from a look up table. Didn't even have
>a microprocessor either. I don't understand all the excitement about
>the QST article. I wouldn't want the design if it was free.

>Rick Karlquist N6RK
>rkarlqu@scd.hp.com

Well I have seen several servo tuners but never seen one that could
move very far in 1/2 second. Most took several seconds to turn a
rolller inductor thru a gear head motor. However they all did use a
phase magnitude detector.

I do have to say that I have a great deal of respect for the circuit
in this article as I haven't seen anyone else publish anything better.
And a few years ago QST published a servo driven VSWR driven circuit
that was just awfull.

Also the magnitude detectors usually try and determine if the load is greater than or less than 50 ohms.

Several of the circuits in the ham publications over the years have only used phase detectors which required you to manually get in the band. The Ten a Matic for example. Other wise they will tune you to the equivalent of a 1/2 wave or any other resonant length.

A good description of the phase detector is in a couple of articles by David Geiser Wa2anu CQ Aug 1962 and then in the July 1980 QST. In the Qst article he also covers the magnitude(impedence) detector(indicator).

In another message is a list of the related articles I have if any one is intrested.

Garry WB0NNO

164. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan7.200411.6084@ke4zv.atl.ga.us>
Source record: 108283

In article <820988469.19749@pinetree.microserve.com> jackl@pinetree.microserve.com (WB3U) writes:
> w8jitom@aol.com (W8JI Tom) wrote:
>>
>>I see Gary's point. If an unfiltered DSB signal is clipped and re-
>>mixed to audio, it will have extra unnecessary distortion products in
>>the output.
>>But I have no feel for the level.
>
>I thought about that too, but I don't see how the distortion products
>could fall in the RF passband. For instance, let's say the balanced
>modulator is operating at 6 MHz and that it's modulated with a 1 KHz
>tone. The output will be two carriers (DSB), one at 5,999 KHz and
>the other at 6,001 KHz. What combination of those two carriers
>produces a distortion product that falls near the two fundamentals?

Ok, here's the problem. When you go to demodulate DSB back to audio, the output is the vector sum of *both* sidebands with the reintroduced carrier. You know what AM sounds like under selective fading, well the same thing is possible here if the clipping of the upper and lower sidebands isn't precisely symmetrical in both the amplitude and frequency domains. The latter is what's different about DSB. The sidebands are *mirror* images in the frequency domain, so the clipping also has to be mirror imaged in the frequency domain. That's not necessary with SSB.

Depending on how the clipper is implemented, there can be considerable differences induced in the phase/amplitude envelopes of one sideband and its mirror image. Those differences will show up as in-band distortion products. I don't have a feel for how great a problem this may be, but I'm sure it is a problem (it is for AM broadcast transmitters using compression), and there's no way to simply filter out these components. My gut feel is that it's important to use a carrier as high in frequency as possible for modulating and demodulating the DSB signal so that the percentage bandwidth is minimized and possible asymmetries in the frequency domain are reduced.

Another potential problem is reciprocal mixing in the demodulator. The clipped sidebands will generate a *pair* of harmonics for each audio generated product. To take the steady state example you pose, the LSB will have a harmonic at 11.998 MHz while the USB will have a harmonic at 12.002 MHz. Those two can *also* mix in the demodulator yielding a difference product of 4 kHz which will be in the output audio passband. Now that particular product is high enough to be audio filtered in the output, but consider if there is a 500 Hz

component present in the input audio, its product will fall on
2 kHz in the output, and that's in the speech band. The obvious
solution to this problem is a lowpass filter between the clipper
and the demodulator. But that lowpass filter has to be pretty
good to eliminate sensible products in the output. The lowpass
in a SSB clipper doesn't have to be quite as good since it doesn't
have to deal with paired products, IE there are only half as many
potential mixing products that can fall in the speech bandwidth
of the output with SSB *and* they are unrelated in phase, so
there's a potential for at least 6 db worse distortion products
out of a DSB clipper than a SSB clipper.

It's a rule of thumb that products more than 20 db below the
average level of an audio signal are not sensible for communications
purposes. So we need a lowpass with at least 20 db of attenuation in
the SSB case, but at least 26 db in the DSB case to reduce this in-band
distortion below sensible levels. I don't think this is a big deal, and
it rapidly gets better as the order of the harmonics increase, but it
is another disadvantage of the DSB clipper approach. And we should
remember that clipping raises the average level of the audio (that's
why we're doing it), so 8 db of compression makes our filter requirement
8 db greater too. A clean DSB clipper thus may need a filter of 34 db.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

165. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.21.007833F2@azstarnet.com>
Source record: 108284

In article <1996Jan7.200411.6084@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>From: gary@ke4zv.atl.ga.us (Gary Coffman)
>Subject: Re: Question: RF Speech Processing
>Date: Sun, 7 Jan 1996 20:04:11 GMT

[snipped to save BW, or was that clipped?]

>Ok, here's the problem. When you go to demodulate DSB back to
>audio, the output is the vector sum of *both* sidebands with the
>reintroduced carrier. You know what AM sounds like under selective
>fading, well the same thing is possible here if the clipping of
>the upper and lower sidebands isn't precisely symmetrical in both
>the amplitude and frequency domains. The latter is what's different
>about DSB. The sidebands are *mirror* images in the frequency domain,
>so the clipping also has to be mirror imaged in the frequency domain.
>That's not necessary with SSB.

I have this crazy way of looking at things sometimes. I just said to myself, "Self, if you *wanted* to clip each sideband in this DSB signal independently, what is the likelyhood that you could do it with a simple clipping circuit?" And I answered, "Beats me :-)"

>Depending on how the clipper is implemented, there can be considerable
>differences induced in the phase/amplitude envelopes of one sideband and
>its mirror image. Those differences will show up as in-band distortion
>products. I don't have a feel for how great a problem this may be, but
>I'm sure it is a problem (it is for AM broadcast transmitters using
>compression), and there's no way to simply filter out these components.
>My gut feel is that it's important to use a carrier as high in frequency
>as possible for modulating and demodulating the DSB signal so that
>the percentage bandwidth is minimized and possible asymmetries in
>the frequency domain are reduced.

>Another potential problem is reciprocal mixing in the demodulator.
>The clipped sidebands will generate a *pair* of harmonics for each
>audio generated product. To take the steady state example you pose,
>the LSB will have a harmonic at 11.998 MHz while the USB will have
>a harmonic at 12.002 MHz. Those two can *also* mix in the demodulator
>yielding a difference product of 4 kHz which will be in the output
>audio passband. Now that particular product is high enough to be
>audio filtered in the output, but consider if there is a 500 Hz
>component present in the input audio, its product will fall on
>2 kHz in the output, and that's in the speech band. The obvious
>solution to this problem is a lowpass filter between the clipper
>and the demodulator. But that lowpass filter has to be pretty

>good to eliminate sensible products in the output. The lowpass
>in a SSB clipper doesn't have to be quite as good since it doesn't
>have to deal with paired products, IE there are only half as many
>potential mixing products that can fall in the speech bandwidth
>of the output with SSB *and* they are unrelated in phase, so
>there's a potential for at least 6 db worse distortion products
>out of a DSB clipper than a SSB clipper.

I think it's too late to use a low-pass after the clipper. The intermod
products can (will) be generated in the clipper. After all, it's a
highly non-linear device, perfectly suited for mixing. For example:

Two audio tones, 500 and 1000 Hz applied to the balanced mixer along with
a 6 MHz carrier. Output is 6 MHz (suppressed), 5.999, 5.9995, 6.0005 and
6.001 MHz. Assume an USB filter. Output is now 6.0005 and 6.001 MHz.
Clip the hell out of it and get 6.0005, 6.001, 12.001, 12.002, 18.0015,
18.003... Also, get (12.002-6.0005 = 6.0015) and (18.003-12.001 = 6.002)
which both fall in the passband of the following LPF and BPF. It might be
argued that if the clipping is perfectly symmetrical, there won't be a 12.001
and 12.002, but (18.0015-6.0005 = 12.001) and (18.003-6.001 = 12.002) so there
they are. The split-band approach doesn't suffer this particular problem.

One can further argue (correctly) that this example is steady state as in
two-tone testing and not much of a problem with intermittent speech. However,
steady state is certainly the easiest way to compare systems.

[more clipping]

>Gary

Wes -- N7WS

166. recommend good kids' crystal set?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: Trevor McConnell <trevor@tiger.ab.ca>
Message-ID: <30F0539E.5857@tiger.ab.ca>
Source record: 108285

Anybody know of and recommend a good crystal set suitable
for assembly by kids, still on the market?

Trevor, trevor@tiger.ab.ca

167. 4 Quadrature analog multiplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: JLB@earthlink.net
Message-ID: <4cnppq$eki@bolivia.it.earthlink.net>
Source record: 108286

Does anyone know of a construction article for a 4 quadrature analog multiplier? Also known as a doulble balance mixer. I would like to build one and use it to check antenna phasing.

168. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <4cnm2u$cdd@news.azstarnet.com>
Source record: 108287

w8jitom@aol.com (W8JI Tom) wrote:

>In article <4ck2p5$kup@pacific.mps.ohio-state.edu>, James Garland
><garland@ohstpy.mps.ohio-state.edu> writes:

>>That's a great idea, Jack, but I'm afraid you're not the first to think
>>of it. As I recall, there were several audio processors on the market
>>during the 70's which used the basic idea: mix an audio-derived DSB
>>signal up to an IF (usually 50-500KhZ), clip it, then mix it back to
>>audio. ETO sold one of these units, if I remember correctly, as did
>>VOMAX. I also recall reading a do-it-yourself article on the concept in
>>one of the ham mags -- probably Ham Radio.
>>Jim W8ZR
>>
>>

>Hi Jim,

>The Vomax was a split band audio processor which is superior to RF
>processing. I still use a modified VOMAX with my 751A.

>Wes N7WS had a nice article in some magazine years ago, it was good enough
>to be copied (hopefully he was compensated) and sold by two other
>companies.

I wish!

>I see Gary's point. If an unfiltered DSB signal is clipped and re-mixed to
>audio, it will have extra unnecessary distortion products in the output.
>But I have no feel for the level.

I posted on this before, but hadn't read Jack' s post
carefully enough to see that he was talking about a *DSB*
signal. The Comdel approach that I mentioned was an *SSB*
processor. As Gary and Tom note, there will probably be a
distortion penalty to pay. You also have to be very careful
to have the clipping occur only in the clipping circuit, not
elsewhere where it is uncontrolled.

>Splitting into sub-bands, processing, filtering, and re-combining is
>always the best approach. As long as correct phase between signal channels
>is maintained. Hopefully Wes will show up, since he designed a system.

I'm here!

I agree, although, you must be very careful to minimize
lower frequency distortion ahead of the first band-splitting
filters. Distortion products are harmonics and if the input

signal contains them, they can pass into one of the higher frequency filters, where if they are small enough, they remain unclipped. Meanwhile, the higher amplitude, lower frequency signal is clipped, ie. its amplitude is reduced. Coming out of the second set of filters, the two signals are combined and... oops; compared to the fundamental, the harmonic amplitude has actually increased. The distortion has increased by the clipping ratio; exactly what we don't want. Of course, we usually analyze these things under steady-state conditions. With speech, this is much less of a problem.

>73 Tom

73, Wes

Some references:

"R.F. Clippers for S.S.B." by William Sabin, W0IYH, QST, July 1967.

"Ordinary and Processed Speech In S.S.B. Application" by Harold Collins, W6JES, QST, Jan 1969.

"Speech Clipping in Single-sideband Equipment" by Walter Schreuer, K1YZW, ham radio magazine, Feb 1971.

"Performance of RF SPeech Clippers" by Leslie Moxon, G6XN, ham radio magazine, Nov 1972.

Letter to ham radio magazine, by L. R. Newsome, VK4LR, May 1975, pp 75-76.

"Split-band Speech Processor" by Wes Stewart, N7WS, ham radio magazine, Sept 1979.

Letter to ham radio magazine, by W. Schreuer, with response by W. Stewart, N7WS, Feb, 1980,

169. Ham Gods and Spectrum Analyzers (Was interesting question...)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: lrware@aol.com
Message-ID: <4coc5i$kpq@newsbf02.news.aol.com>
Source record: 108288

In article <4chl02$1te@soap.news.pipex.net> fj91@dial.pipex.com (Andy Green) writes:
>Things I know:

<snip massive amount of information presented concisely>

> information posted by:
>Gary Coffman KE4ZV
>Destructive Testing Systems
>534 Shannon Way
>Lawrenceville, GA 30244
>gary@ke4zv.att.ga.us

Bravo! Do we have an ex spectrum analyzer designer among us?
Concise discription of why a good spectrum analyzer is...

-Larry Ware
R&D Engineer
GTI Telecom
lrware@aol.com

170. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4coesd$mg7@newsbf02.news.aol.com>
Source record: 108289

In article <NEWTNews.820970803.4385.jwicklun@mycroftxxx.halcyon.com>, Jay Wicklund <jwicklun@mail.halcyon.com> writes:

>The difference between the 20A and the 20B seems to be that the 20B has a

>somewhat better spec on clamping resistance and slightly lower clamp
>volt.
>
>My book doesn't show the other two parts, but I would guess that the LA13

>is inbetween the LA10 and LA20.
>
>If anyone would like, I could fax a copy of this page of the book to you.
>
>73.....KI7RH (Jay)

I wonder if anyone looked at the voltage a MOV requires before the resistance really drops a lot, and compared that to the current the device you are protecting would be drawing at the same voltage. It's been a while since I looked at them, but when I did they almost were worthless for power line protection.

73 Tom

171. Free Ham Radio Web Based Forums (http://hamradio.bicnet.com)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: ka1si@bicnet.com
Message-ID: <4a1i505i0i55$4cJ@newtoy.ostech.com>
Source record: 108290

We have set up a Free Ham Radio Web based Forums Site for general use.

As these forums grow, more specific purpose forums will be created for
things like For Sale notes, etc.

These forums are open to the general internet community, and your
participation is encouraged! The Forums System on which they are implemented
is very easy to use.

The url is: http://hamradio.bicnet.com

Regards,
Steve KA1SI

172. Multi-Pin Connectors FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: steveclby@aol.com
Message-ID: <4cp56u$1l5@newsbf02.news.aol.com>
Source record: 108291

For Sale:
I have picked up a number of military type multi-pin connector kits (female) with the connector housing and separate container of gold (plated?) pins. Ther are various manufacturers and some kits carry part numbers like "Bendix CE-10-185002-202" Assembled July, 1966. Anyone have any interest in these?

Thanks,

Steve

173. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <Pine.SUN.3.91.960107213807.8251A-100000@peach.epix.net>
Source record: 108292

On Fri, 5 Jan 1996, Jay Wicklund wrote:
Snip

>
> In any case, I have to agree with the idea that it should have been
> called a product review instead of construction - and QST is doing this
> far too often. It isn't just software. A few months ago they published
And if its aproduct review should the company be doing the review?

Garry WB0NNO

Snip
> 73 de KI7RH (Jay)
>
>
>
>

174. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <Pine.SUN.3.91.960107211815.18325D-100000-100000@plum.epix.net>
Source record: 108293

Well Stated !

In fact all the ARRL rigs are now big comerical units from what I have heard. More like a coastal station for ships at sea. The ARRL has all the tools to do board design and maybe even fab. Why isn't this offered as a service to the members for projects such as this tunner? Why aren't the lab services in general more available to the membership or are they and I'm just unaware of it?

Garry WB0NNO

On Wed, 3 Jan 1996, James Griffith wrote:

> In article <4c6es2$394@mgate.arrl.org>, ehare@arrl.org says...
> >
> >griffithj@ricks.edu (James Griffith) wrote:
> >
> >>>QST is sold at most major news stands and magazine racks now. You
> might
> >>want to try that. The artical is not that big a deal. It's an
> >>advertisment so its writer can make money. It would be difficult to
> >>duplicate without buying their kit. QST is going same way Popular
> >>Electroncs went years ago, selling kits with articles.
> >
> >Hello, Jim,
> >
> >I don't kwow if I would go *that* far. First, ARRL doesn't sell the
> >kits; the authors do. From the feedback we have received from readers,
> >most readers *prefer* construction articles that have kits. And, in
> most
> >cases, even if a construction project has a kit, the builder can still
> >dead-bug it, if he or she chooses. This tuner article is almost an
> >exception to the rule, in that it requires a part that is available only
> >from the author. However, the author will gladly sell the
> >progrmammed IC only for those who want to locate all the other
> >parts themselves. (I wonder if *anyone* will take him up on the
> >offer; I want the kit! :-)).
> >
> >
> >>
> >
> >I don't mean to sound like a "wet blanket", and I don't know your age,
> mine is 52. But, I remember the exciting time when, with almost nothing
> at all, one could get on the air with something he or she built. Or, if
> you were intrested in just building an electronic project from Ppopular

> Electronics, you were able, because at the age of 12 or 13 you didn't
> have the money to by that one part that could only be bought from that
> special place, who ever or were ever it might be.
>
> Have you ever longed to build something electronic at the age of 12 or
> so, and had no money, but the author gave you a way to do in in the
> article, like the code for the chip, or the turns count and size of the
> coil.
>
> I believe,(This is only me talking.) and I am a member of ARRL and you
> have published 2 very popular articles I wrote, at least my fan mail said
> so, that QST is no longer a member publication devoted to ham radio, FOR
> THE LOVE OF IT, but has gone into business, targeting those people who
> would buy more magazines, (Your on the news stand now.) books, and other
> offers the ARRL has, and has geared it QST publication toward them.
>
> Who are those people, (Me talking again.) thay are people who never grew
> up in ham radio scrounging a part or a who rig full of parts to get on
> the air, and if the truth be known, computer have the interest of the
> young people, not ham radio. I can talk any were in the world on internet
> who needs a radio.
>
> Those are the people targeted by QST. We all see the QRP articales, about
> the only rig that can be built any more, if one can find a variable
> capacitor. Have you even seen a dealer advertise a line of variable
> capacitors in QST or any were elce. I have been in hard electronic repair
> for 35 years, and I can fix hundreds of things not made anymore, or will
> never be made again. Why, becasue it all gone to software, and QST won't
> publish it so we can use are new skills and try and program our EPROM or
> processor chip, we have to buy it, just like Popular Electronics.
>
> When is the last time we saw a 75 watt Novice rig in QST built and
> presented by the ARRL lab. Packet is the revolution for those with
> interest in computers. I can use computers, and repair them, thank you. I
> tried packet and sold it. My time is better spent on something that is
> real time then waiting on the postman.
>
> I, and people like me, are no longer the interest of the ARRL, or QST. I
> love ham radio. It has gotten me good jobs from the skills it has given
> me. I have talked to lots of people. Years ago thay all built something,
> today most do not even own a good soldering iron. QST know that. I, and
> the 12 and 13 year olds are no longer the target, the kit builder, and
> the buyer of new equipment is because there in no money in me and a 12
> year old. There never has been any money in me and my kind in ham radio
> because we build from parts, which there is no money in.
>
> We are the ones that some QST articles have made fun of because we see a
> good deal in a broken radio, and can fix it, or see the value in a pile
> of junk that know one elce can recognize, and are no longer recongnized
> by QST.

>
> That is why the missing chip code to the ATU article is importent. Not
> because you can build the unit by odering the part, but because you can
> not say, on the air, I programed the chip myself from and article in QST.
>
>
>
>

175. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: Garry Foster <gmfoster@epix.net>
Message-ID: <Pine.SUN.3.91.960107211051.18325B-100000-100000@plum.epix.net>
Source record: 108294

Snip.
> antenna on the rear bumper. What's the big deal, haven't seen anyone
> complain about Yaesu, Kenwood or Icom not giving their stuff away.....
> --
> John Wilcox / NS1Z
> 44.118.6.4
> ns1z@ns1z.ampr.org
> 204.117.6.48
> ns1z@rumford.agate.net
>
> ns1z @ kb1bsc.fn44rn.me.usa.noam
What was the last Yaesu, Kenwood or Icom project you saw as a lead howto
article. In fact what was the last article on one of these manfg.
products that wasn't a review or paid advertisment?

And you really should move the unit to the base of the antenna or as
close as you can get it.

Garry WB0NNO

176. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <821098902.19663@pinetree.microserve.com>
Source record: 108295

First, thanks to everyone for their comments on this subject. The RF processor in my previous rig was very effective and I'm looking for a way to build an inexpensive outboard replacement. Criticisms of the technique that I described are exactly what is needed. I think it would be useful to explore the various points that have been made in greater depth.

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>You know what AM sounds like under selective fading, well the same
>thing is possible here if the clipping of the upper and lower
>sidebands isn't precisely symmetrical in both the amplitude and
>frequency domains. The latter is what's different about DSB.
<snip>
>My gut feel is that it's important to use a carrier as high in
>frequency as possible for modulating and demodulating the DSB signal
>so that the percentage bandwidth is minimized and possible
>asymmetries in the frequency domain are reduced.

This is the first thing to consider, because it relates specifically to the decision of whether to use DSB. As in the previous example, let's say the carrier oscillator is 6 MHz. The DSB passband for audio frequencies out to 3 KHz will be 6 KHz. Therefore, the passband is 0.1% of the frequency of operation. If there are no tuned circuits between the balanced modulator and the clipping diodes, will frequency response irregularities due to non-symmetrical clipping really be a consideration? To go a step further, let's raise the carrier oscillator to something around 30 MHz. Now the passband width is only 0.02% of the frequency. Surely that would prevent this type of problem?

Looking at this somewhat empirically, the RF processor in my previous rig clipped the SSB signal at an IF frequency of 3.18 MHz. Because it was SSB, the passband width was approximately 3 KHz. That means the passband width was 0.094%, only slightly less than the 0.1% for the DSB processor at 6 MHz. If this percentage bandwidth can be symmetrically clipped for SSB at 3.18 MHz, would you agree that non-symmetrical clipping probably won't be a factor with DSB at 6 MHz, assuming the circuitry is otherwise similar?

>Another potential problem is reciprocal mixing in the demodulator.
<snip>
>The obvious solution to this problem is a lowpass filter between the
>clipper and the demodulator.
<snip>
>A clean DSB clipper thus may need a filter of 34 db.

Assuming the worst-case scenario of 34 dB is correct, the second harmonic products at 12 MHz are still a good distance away from the fundamental. Wouldn't something like a 7- or 9-element Chebyshev low-pass filter provide this degree of rejection?

73,
Jack WB3U

177. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <821099029.19663@pinetree.microserve.com>
Source record: 108296

n7ws@azstarnet.com (Wes Stewart) wrote:

> ... you must be very careful to minimize lower frequency distortion
>ahead of the first band-splitting filters. Distortion products are
>harmonics and if the input signal contains them, they can pass into
>one of the higher frequency filters, where if they are small enough,
>they remain unclipped.

w8jitom@aol.com (W8JI Tom) wrote:

>Splitting into sub-bands, processing, filtering, and re-combining is
>always the best approach. As long as correct phase between signal
>channels is maintained.

This points out some shortcomings in the split-band scheme that I hadn't thought of. I do have a few comments.

First, maintaining the correct phase at the output of each filter is probably impossible because the shift will vary across each filter's passband. I'm not sure how significant this phase shift will be in terms of the percieved quality of the recovered audio, but having been in the audio business a number of years, it's a troublesome concept. Multiple-band phase shift is one of the characteristics of graphic equalizers said by many (including yours truly) to degrade their sound quality. This may not be a significant issue in this application, but I'd be very interested in a critical listening test of the audio quality of one of these processors (with the filters active but the clipping turned off). To clarify this a little, I'm not just referring to the amplitude cancellation that takes place as a result of phase shift, but also to the audible effects of the phase shift itself.

Second, the possibility that the split-band processor might increase the overall percentage of harmonic distortion in the manner described above can't be overlooked simply by virtue of a low-distortion preamp/filter circuit. Most harmonic distortion encountered in audio is produced in microphones and speakers, not in the electronics. In this application, THD of the microphone will be impacted in the same manner as harmonic distortion produced in the input circuitry.

Again, I don't know just how significant this factor is. In double-blind A/B tests, it's been shown that listeners often cannot identify harmonic distortion in music until it is above 5%. Below that level, most listeners detect a difference between the pure and intentionally-distorted programming, but they fail to identify it as distortion. In many cases, they will describe a signal with 1% or 2% THD as sounding louder than the original, but not as being distorted.

Given the fact that speech lacks the sustained tones found in music, I suspect it is affected even less in terms of perceived distortion.

73,
Jack WB3U

178. Re: VCO regulator chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-07 00:00:00 UTC
From: John Stephensen <john.stephensen@isocor.com>
Message-ID: <DKsIB4.M7M@isocor.com>
Source record: 108373

Zack Lau <zlau@arrl.org> wrote:
>
> Is there a better chip to use than the
> ancient 723 regulator chip? The National
> Databook lists its output noise as
> typically 2.5 uV rms between 100Hz and
> 10 kHz. The 78L05 and LM317 are much
> worse (40 uV, 0.003 %)
>
> I don't think it helps to run VCOs off of
> noisy power supplies if you are trying
> to minimize phase noise.
>
> Zack KH6CP/1
>
>
>
I have been placing the following circuit at the VCO
to clean up the power supply noise:

```
INPUT -+------- ------ OUTPUT
| C\ /E
| ------- MPSA18 or 2N5089
| |B
+--/\/\/--+
6.8K |+
--- 10uF
--- Tantalum
|
---
///
```

It has worked well on 3 VCOs so far.

73,

John, KD6OZH @ KO-23

179. CLEANING SHACK List 3

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: qa2696@email.mot.com
Message-ID: <4cq7i0$60m@newdelph.cig.mot.com>
Source record: 108297
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,mot.forsale,local.soc.forsale

SHACK SALE: List #3 GREAT for HOMEBREWERS

Locals call for time to look over the goodies.

MAKE OFFER BY PACKAGE!

Shipping by UPS Ground.

"This isn't everthing!...I will be adding
to the list as I go through the cabinets.
Still have a lot of RF Componenets, Hardware,
etc."

Description of Packages;

21] PC Trimmer Resisters, Mini Multi-Turn
Qty - ~ 100 PC Mount Trimmer Resisters 500, 1K, 5K
10K,20K 50K, 100K Ohms

12 Panel Mount 1/4" Shaft Linear Controls
Various Values

22] LEDs, 7 Segment Display, Red, Grn, Ylw
12V Filament Miniature Lamps, Panel Mount
Qty ~ 50 LEDs & 7 Segments
~ 50 12 Mini Lamps, Bayonet, Srew, Leaded
with some Panel Mounted types.

23] Ferrite Cores
Qty - > 100 Assortment of mini balun, beads, ferrite chokes, toroids
of various mixes & sizes. Ferroxcube & Amidon cores.
Used these for Mixers, Amplifiers up to 40W HF -> VHF.

24] HeatSink Assortment
Qty - > 100 Assorment of various types. From small TO-72 up to TO-3.
Finned, Hats, IC, etc with some mounting hardware, insulators.
(Sorry, no High Power Amplifer Heatsinks)

25] Linear, Analog, RF IC's
Qty 2 555
1 556
1 557
2 LM139J OP-Amp
2 LM324N OP-Amp
6 LM2900 OP-Amp
5 LM3086
6 CA3028A IF/RF IC

1 CA3065
2 CA3080
1 CA3081
1 MC1330
1 MC1350
4 MC1496G Bal Mod/Mixer
1 MC1496L Bal Mod/Mixer
2 MC741CP OP-Amp
12 MC1741CP1 OP-Amp
3 SD5000N FET Switch
2 SI7660CJ
10 SP8794A 60MHZ/8 Counter Plessey
1 TCA440
7 TDA2002 4W Audio IC
1 TL082CP OP-Amp
3 ua733HM
3 ua741HM OP-Amp
2 ua741PC OP-Amp

26] 74LS, 74, CMOS Ic's, Sockets
Qty 7 74LS00PC
1 74LS02N
2 74LS04N
1 74LS10N
3 74LS30N
2 74LS73N
2 74LS90N
10 74LS174PC
1 74LS192N
4 74LS221N
4 74LS365AN

74 TTL
~50 74 Assorted Types

CMOS IC's
2 CD4046AE
2 CD4059AE
2 CD4077BE
3 MC14511B

> 30 Assorted IC PC Mount IC Sockets

Yes! Still more coming.

\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!
==========
| KD9JQ 708-358-3827 Home |

| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 qa2696@email.mot.com |
==========

180. Web Page with MODs, Calls lookup, Ham links, Swap page, and more!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: David Mclean <dmclean@dfw.net>
Message-ID: <4cpord$gok@fnord.dfw.net>
Source record: 108298
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

I would like to welcome all of you to my web page. The address of my web page is "http://www.dfw.net/~dmclean". I have many links that you will like. Here is a list of things that I have on my Web page:
1. Swap Page
2. Mods page
3. QRZ call lookup
4. Repeters freqs.
5. Links to F.C.C, A.R.R.L, and many more.
Check it out. You will like it.
--
David Mclean
From The World of Hamradio
KC5NNV is Clear!

---

181. Re: Eddystone SW radio won't work - Need help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: <>
Message-ID: <4cqg4i$1nb@central.co.nz>
Source record: 108299

In article <DKpx8F.EB9.0.queen@torfree.net>, ai657@freenet.toronto.on.ca says...
>
>
>I have recently aquired an Eddystone EC-10 SW radio.
>It doesn't work.

Snip

Can't speak for the Toronto area as it's a bit ouside my shopping area !

However, if you get really stuck I can provide a circuit diagram for this set. They are good radios, given their age. E-Mail me with your postal address

Barry Lennox

182. ? looking for Harry, W3IIT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <30F1A718@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 108300

Hello,

just looking for the correct address of Harry, W3IIT, who answered me
in Bulletin #457 with HBROWN@EW0203.RESD. Could you or Harry himself if
you read this response to DL4MEA@AMSAT.ORG?

Thanks a lot!

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
DL4MEA@AMSAT.ORG (Internet)
HTTP://WWW.SCN.DE/~KOELLNER (WWW)

183. Schematic of FQY Synthesizer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: tonyp@convex.com
Message-ID: <4crm9r$kh8@convex.convex.com>
Source record: 108301

GE

I need to build a frequency synthesizer that has an output to 100Mhz.

It seems to me that QST had one a year or two ago, but I give my
old issues away so I'm not sure.

Anyone know where I can get a schematic?

73,
WA2EAA - tony

--
The Coyote's | I'm the voice of all the Wildest West, the Patti of the Plains;
Song | I'm a wild Wagnerian opera of diabolic strains;
Ernest Thompson| I'm a roaring, ranting orchestra with lunatics becrammed;
Seton, 1913 | I'm a vocalized tornado - I'm the shrieking of the damned!

184. Re: article/book detailing converting cb===>10 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: bigjon1@ix.netcom.com
Message-ID: <4crim0$r9c@cloner2.ix.netcom.com>
Source record: 108302

In <tgmDKq60L.AII@netcom.com> tgm@netcom.com (Thomas G. McWilliams)
writes:
>
>Bob Tomas (tomas@ra.cgd.ucar.edu) wrote:
>: I forgot to say that I am interested in converting modern,
>: pll equipment---stuff that is currently being sold by retailers.
>
>Because of illegal CBers, the FCC required that CB equipment be very
>difficult to modify for out of band operation. New CB synthesiser
chips
>were designed to implement the new regulations, and so on. This is not
>to say CB to ham conversions can't be done, and I've seen
advertisements
>offering kits and info on how to accomplish it. I think most the kits
>involve adding an extra mixer and oscillator board. Look in the back
>of electronic and CB magazines for info on who sells these kits and
>plans.
>
>Thomas
>ars KI4N

Try LOU@CBCINTL.COM
he sells these things...I know, I bought one.

185. SDA 4213

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: <>
Message-ID: <4cqg7e$1nb@central.co.nz>
Source record: 108303

Has anybody got any data on a SDA-4213 pre-scaler IC made by Siemens

TIA, Barry Lennox

186. Alfred (Singer) model 650 sweep generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4cqcn7$ia1@newsbf02.news.aol.com>
Source record: 108304

Need manual and schematic. Thanks beforehand.

-Viny Coppola N1VC

187. Re: 2M T/R relay plans?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: djch@rivers.dra.hmg.gb
Message-ID: <DJCH.96Jan8105355@tamar.dra.hmg.gb>
Source record: 108305

There's a design for a mechanical relay in the RSGB VHF handbook (4th ed), but it's 75 ohm. The design uses a thin strip in a circular bore, and for 50 ohm the strip nearly touches the sides...

I recall some suggestions that a reed relay element in a suitable co-axial outer could be used as an spst switch, and two as a T for a changeover relay, (with the coil over the (non-ferrous) outer).
The resulting stub of maybe 1-2 inches on the open side should be ok on 2m.

Does anyone know what commercial 50 ohm relays use?

--David G8SQH

188. Re: Accurate Clock for Digital Circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: joopv@etprs.seas.ucla.edu
Message-ID: <4cron1$1jl@tuegate.tue.nl>
Source record: 108306

CARDS User (mhr@aol.com) wrote:
> I am looking for a very accuarte clock (10 to 20 Mhz) to drive digital
> circuits. The accuarcy should be roughly +/- 5 ppm at room temperatures.
> If possible the circuit should be buildable with common electronic parts.
> Please let me know if anyone has knowledge of an appropriate design.

> Thanks to all in advance.

> Mark R.

Mark,

There are TCXO's on the market (Temperature Compensated Crystal Oscillators)
in a DIL-14 house. A simpeler solution is to solder a PTC disc to a crystal
house. That way the xtal is stabilized at 60 degrees or so.

Siemens has appropriate PTC disks for this purpose.

Joop

189. Re: How to build a TNC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: wmkresl@townsquare.net
Message-ID: <4cq74q$84i@spectator.cris.com>
Source record: 108307

Marcos Antonio Gallego <mgallego@br.homeshopping.com.br> wrote:

>Hi all,

>I'm looking for an article that can help me in how to build a TNC...
>Regards,

>Marcos

I would NOT try to build one. Beside the cost involved you
would have to obtain the firmware (COPY?) from another
TNC and at least try to duplicate the HARDWARE from the
same thing. Your efforts and time could easily PAY for several
store bought TNC's, and mucho USED ones. I have purchased
two older TNC's recently for under $40 each.

If you want to play around with a cheap system for a newcomer
try the software (IBM-PC) TNC emulators of POOR MAN's PACKET
based on a TEXAS INSTRUMENTS TCM3105JL 1200 baud
half-duplex modem chip ($5-10) that operates on the computer's
PARALLEL PORT. It is a cheap, useable system (NO MAILBOX)
but will get you on packet for $0-30. Check out the PMP article
in the NOVEMEBER 1991 issue of 73 Magazine.

There is BAYCOM software (shareware version 1.5) and modem that
operates on the SERIAL PORT that provides DIGI-PEAT and
some mail functions as well file transfer protocals. This modem
will cost slightly more to build as it uses a few more chips to
interface to the COM port. Check out the BAYCOM TEAM's
WWW website for more info on this and other projects (they
offer a kit for sale. TIGERTRONICS has BAYPAC and others
listed in the ham mags have other BAYCOM modems for sale.
The BAYCOM modem can be used with other packet programs
(NOT ALL) with the use of appropriate BAYCOM drivers.

Last month's QST had an article about a cheaper BAYCOM
modem using the same modem chip called the IMP. The article's
schematic has a few errors and some things I did differantly for
all of the PMP/BAYCOM modems that I built (several). For the
beginner it is a good way to go, and even for laptop-packet
or as a second back-up packet setup. Also, drivers exist to
use these simple modems on other computer systems (MAC, etc).

Older 1200 baud BELL 202 compatible phone modems can
be found that can be converted (adding PTT circuitry, etc.) but
would be pretty bulky and hard to power for portable use. The
BAYCOM modems steal there power from the SERIAL PORT.

Hope that helps, good luck on any path you choose...73

Wm Kresl WB9BBC @KD9JK.WI.USA.NOAM

190. Re: Profitting from QST articles (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: Jim Strohm <"Jim Strohm"@ausq1ak>
Message-ID: <4crhig$ig4@newsgate.sps.mot.com>
Source record: 108308

Wes, thank you for a thought-provoking description of "selling kits"
from the other side.

Is anybody listening?

WRITERS AND KIT-SELLERS ARE *NOT* MAKING A HEAP OF MONEY!!!

Yes, for amateur radio projects in the magazines,
board layouts and source code should be available for cheap or for
free. No, we should not pirate this information for commercial
exploitation. Yes, we should be able to buy fabricated boards,
programmed PROMs, and disks containing the source listing.

Did any of you good ops out there try WRITING to the author of an
article in QST and requesting the "missing" information? You'd
probably be surprised at how a well-worded request for more information
-- in the case of "proprietary" source code, for example -- might
loosen up the availability of some info. Most software developers
are happy to tell you how they did something -- just like craftsmen
are happy to tell you what tools they used to craft an item.

But if you want somebody to do something for you, please be prepared to
pay their asking price.

191. Re: Help with MC68HC705C8 Programming

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960108125036.23416F-100000@biggulp.callamer.com>
Source record: 108309

Hi Ron...Hey it has been some time since we talked. I'll bet you are laughing at some of my efforts with the old TRS80 model 100, but the fool thing still works!! Regarding the MC68HC705C8, you might look in QEX starting at issue number 107 for Jan 1991. After that issue there were others in which contained terminals for RTTY, AMTOR were written up. The programming was difficult for those chips, three of which I still have not programmed effectively, but therein might be a clue for further investigation. Cliff Buttschardt W6HDO

On 6 Jan 1996, Ron Long wrote:

> Hello,
>
> I want to program a OTP (one time programmable) Motorola
> microcontroller MC68HC705C8 using a circuit given in the
> Motorola manual which transfers data from a 2764 eprom into
> the controller.
>
> The question is the data book is unclear about the programming
> voltage (Vpp). At one place it says 16 V maximum but it never gives
> a typical or 'correct' voltage? 12 Vdc? Is 13.8 Vdc ok?
>
> Thanks for any help.
>
> Ron, w8gus.
>
>

192. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: bill.sorsby@dlep1.itg.ti.com
Message-ID: <4cs3ht$q0@mksrv1.dseg.ti.com>
Source record: 108310

In article <820988469.19749@pinetree.microserve.com>,
jackl@pinetree.microserve.com says...
>
> w8jitom@aol.com (W8JI Tom) wrote:
>
>>The Vomax was a split band audio processor which is superior to RF
>>processing. I still use a modified VOMAX with my 751A.
>
>Tom, could you elaborate on this? I was surprised by your statement,
>given the 8 dB or so improvement possible with RF processing. Of
>course, I can see how splitting the audio spectrum to enable effective
>filtering of harmonics could be as effective, but not more so.

I've still got a VOMAX which I used for years. In the tests I ran with it I was never convinced that it accomplished nearly as much as was claimed for it. I used it for whatever marginal benefit it might provide and because it didn't distort my signal too badly (although some people complained!)

The concept of speech compression is a fascinating subject. It is easy to compress a signal so that the average power is increased, but improving comprehension (the desired end result) is another matter; the two don't necessarily go together. In some instances compression can be counterproductive to comprehension or intelligibility. What happens is that compression of mid-band speech frequencies (generally not critical to comprehension) can drown out some of the higher speech frequencies (which are critical to comprehension). I believe this to be one of the shortcomings with the VOMAX and the reason why the on-air tests I ran never gave a decisive advantage to the VOMAX.

I've never had the occasion to use RF processing (other than simple ALC) so I can't provide a measure of comparison here.

For what it's worth.

Regards,
Bill Sorsby, N5BU

193. Re: Bi-Directional Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <4crsk2$h38@cloner3.netcom.com>
Source record: 108311

In <Pine.HPP.3.91.960105212912.12361C-100000@pmafire.inel.gov> Jack Mott <jackm@pmafire.inel.gov> writes:
>
>I have a question of the technical experts in this group, although the >subbject matter is slightly off-topic for this newsgroup. I have heard >that cable television systems will need bi-directional amplifiers in order >to support high-speed two-way communications by cable modems. Is this >correct? Also, how would one design a bi-directional amplifier over a >50-800 MHz frequency range (my guess as to what the cable spectrum is)?
>
>At higher microwave frequencies, I would design a bi-directional >amplifier using two conventional amplifiers tied together with >ferromagnetic circulators. However, this design approach really does not >work at lower frequencies (have you ever heard of a circulator covering >50 to 800 MHz?).
>
>If you post a response, please also send e-mail.
>
>Charles Mott
>
>
>
>

It is not as complicated as some would imagine. The amplifiers are not truly hybrid bidirectional. A split system is used with diplexers at each side of the amplifiers. The most commom split is the sub split. 50-Max in the forward direction and 5-45 in the reverse direction. There are also two accepted standards in mid split systems. One is split at around 120 mHz and the other at around 250 mHz. These systems are mostly used in private campus situations where much of the bandwidth is used for telephony, networks and other forms of truly bidirectional communications.

Currently, only about 10 percent of the cable systems in the US have return signals and those that don't are very reluctant to upgrade. The current Dog and Pony shows about widespread high speed interactive cable services are dancing on thin ice...
--
Bye... Ted..

Deep in the Heart of the Armpits of Houston, Texas...

194. Question: Neosid filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: Michael Petzold <M.Petzold@herts.ac.uk>
Message-ID: <4crm5u$171@helios.herts.ac.uk>
Source record: 108312

Hi there!

I've got a problem with so-called Neosid filters. I'm constructing at the time a weather satellite receiver, and I found a suitable description in "vhf communications", a British journal. Unfortunately it is a German development, so some country-specific components were seemingly used. In the schematic there are two different adjustable inductors (with core), and the author calls them Neosid filters. They have the notations 'BV 5056' and 'BV 5061', respectively.
Does someone know where I can get those filters (?) in the *UK* ? Or, of like importance, does someone know what values these devices have in order to replace them?

For suggestions or solutions, please e-mail to:

M.Petzold@herts.ac.uk

Thank you!

195. Re: QST Antenna Tuner Kit-First Impressions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: John Wilcox/NS1Z <ns1z@agate.net>
Message-ID: <4cs1fu$394@service-2.agate.net>
Source record: 108313

Well, I built the kit and was very happy with it. I had no problems with solder connections. The traces are fine (as in thin!) but seem to work for my setup. I run the tuner under my ICOM IC-706 in my old S-15 Jimmy and have had it in there for a few weeks now with not one problem. Time heals all wounds and, in the case of the tuner, may open some... I have had some correspondence with Dwayne and expect if a problem were to develeop I could count on him to provide any assistance possible. I would not only built another (if I needed it) but have heartily recommended it to my friends locally. It sure beats the old MFJs!

--

John Wilcox / NS1Z
INTERNET :204.117.6.48
ns1z@agate.net
Work :5018901@mcimail.com
TCP/IP :44.118.6.4
ns1z@ns1z.ampr.org
AX-25 :ns1z@kb1bsc.fn44rn.me.usa.noam

196. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.23.00484F71@azstarnet.com>
Source record: 108314

In article <4cs3ht$q0@mksrv1.dseg.ti.com> bill.sorsby@dlep1.itg.ti.com (Bill Sorsby) writes:
>From: bill.sorsby@dlep1.itg.ti.com (Bill Sorsby)
>Subject: Re: Question: RF Speech Processing
>Date: 8 Jan 1996 21:49:49 GMT

[snip]

>I've still got a VOMAX which I used for years. In the tests I ran with it I
>was never convinced that it accomplished nearly as much as was claimed for
>it. I used it for whatever marginal benefit it might provide and because it
>didn't distort my signal too badly (although some people complained!)

As the designer of a unit similar to the VOMAX, I feel compelled to respond. The literature I have on VOMAX claims 10-12 dB improvement. One might ask what is meant by "improvement", to which I would respond, based on Schreuer's February 1971, Ham Radio Magazine article: intelligibility gain. OK, what does this mean, you ask. Good question. Difficult to answer.

>The concept of speech compression is a fascinating subject. It is easy to
>compress a signal so that the average power is increased, but improving
>comprehension (the desired end result) is another matter; the two don't
>necessarily go together.

Well, it isn't easy to do it correctly:-) Increased average power and improved readability are not necessarily mutually exclusive though. I normally dislike anecdotal testimonials, but I don't know how to avoid them in this case, so a couple of personal examples.

When I first tried my processor, I was using a 100W transceiver. I didn't own a linear amplifier, but I had the loan of one. I ran a number of on-the-air tests whereby I would ask the other op to compare signal strengths and intelligibility. I would first use the 100W with no processing. I would then turn on the amplifier (SB220) and get a report just to verify how much signal strength change he reported. I would then tell the other guy I was trying out this new audio filter design and I would like to know what he thought. I would turn on the processor and TURN OFF the amp and ask for a report. Almost invariably, the signal strength report was the same and the comments would be something like "The audio has more punch" or "You sound a little bassier" or "You're not quite so natural sounding", etc. I never got a report that suggested that I had dropped power by 10 dB.

I serendipitously chanced upon another fellow, who was using my design, on one of those old ten meter paths where the signal is S1 but Q5. I asked him to turn off the processor so I could get a feel for how it sounded in the other direction. When he did, he was GONE. I mean gone. There was nothing. He had to

turn it back on to tell me to go ahead. We did this several times in both directions with the same result.

Again the disclaimer. I do mostly weak signal VHF work and I have no lab data to back this up, but I'm convinced, that a good processor, intelligently operated, is equivalent to adding a linear amplifier.

> In some instances compression can be
>counterproductive to comprehension or intelligibility. What happens is that
>compression of mid-band speech frequencies (generally not critical to
>comprehension) can drown out some of the higher speech frequencies (which are
>critical to comprehension). I believe this to be one of the shortcomings with
>the VOMAX and the reason why the on-air tests I ran never gave a decisive
>advantage to the VOMAX.

I'm not clear on what you mean by this. Advantage over what? There was one letter to Ham Radio Magazine from K3ND which discussed comparative tests between the VOMAX and my design. Gale reported a preference for my design in 90% of the cases. Most of his respondents believed that the VOMAX frequency response was too narrow. Perhaps this is the problem in your case. There is a trend to narrower and narrower filters in modern radios. Coupling these with further BW limiting in an outboard processor might cause problems.

>I've never had the occasion to use RF processing (other than simple ALC) so I
>can't provide a measure of comparison here.

>For what it's worth.

>Regards,
>Bill Sorsby, N5BU

73, Wes -- N7WS

197. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: alf@kaiwan.com
Message-ID: <H2DymClg1KLT068yn@kaiwan.com>
Source record: 108315
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Sorry but I couldn't help. Enjoy.

In article <NEWTNews.820972088.8581.jwicklun@mycroftxxx.halcyon.com>,
Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>
> Have you tried HP. I've purchased photocopies of old HP gear direct from
^^^^^^^^^^^^^^^^^^^^^^^^^^
Gee, I guess it will be real portable if you fold photocopy of 8620C
and put it in your shirt pocket.

> HP. It's not cheap, but it is reasonable. I don't have the number
> handy, but if you have trouble finding it email me, and I'll look it up.
> HP also has a web site that probably has phone numbers.
>

73,

Alfred Lee alf@kaiwan.com
KE6KGV 'The answer is (e^i&#65533; + 1) ? "No" : "Yes"'

198. FS. HP141T with 8552B IF UNIT.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: tom.alldread@minfox.com
Message-ID: <9601081820338826@minfox.com>
Source record: 108316

W>From: wave@mindspring.com (Pieter Ibelings)
>Subject: FS. HP141T with 8552B IF UNIT.

W>Asking $500+Sh.
> Works great and it is in very good condition.

W>Pieter Ibelings
>AC4OP

Greetings:

Is this a complete spectrum analyzer? What is the frequency
range coverage and the resolution bandwidths offered by the 8552?

Where is ur QTH?

73 de VE7TMA

---
* QMPro 1.53 * Very Best Regards, tom.alldread@minfox.com

199. Re: Ham Gods and Spectrum Analyzers (Was interesting question...)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan8.145012.9602@ke4zv.atl.ga.us>
Source record: 108317

In article <4coc5i$kpq@newsbf02.news.aol.com> lrware@aol.com (Lrware) writes:
>
>Bravo! Do we have an ex spectrum analyzer designer among us?

No, just a spectrum analyzer user, and sometimes repairman.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

200. Re: QST Antenna Tuner Kit-First Impressions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4csf5c$b0o@newsbf02.news.aol.com>
Source record: 108318

In article <1996Jan6.185503.8669@ohstpy>,
garland@ohstpy.mps.ohio-state.edu (JIM GARLAND) writes:

>My only quibble with the kit is the printed circuit board. The board
itself
>is
>of high quality. It is double-sided, with thru-plated holes, green
>solder-masking, and silk-screened component outlines shown in white. My
>concern
>about the board is that the large majority of the traces seem to be
extremely
>thin. I couldn't measure them, but I'd guess a maximum width of 10 mil,
and
>probably less, perhaps even 6-7 mil. (all the relay control lines are
wired
>this way.) Further, the pad sizes seem too small
>relative to the holes in the pad. I'm not an expert at PCB layout, but
I'd
>think that a pad should have a minimum of 10-15mil of metal around each
hole.
>The majority of holes on the board have significantly less metal than
this.
>In
>fact, a majority of the holes were drilled slightly off-center in the
pads,
>so
>that there is no metal at all on one side of the hole!
>
>

Hi Jim, This sounds like the boards I get from out of house layout shops that never work with RF. That's too bad. Maybe you could point that out to the kit supplier, because your observations illustrate a big problem. Somewhere I heard the rhyme short and thick does the trick. I assume that meant RF traces.

73 Tom

201. OLD 20M HB SSB/CW XCVR - early 60s?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDKvFt4.6Hp@netcom.com>
Source record: 108319

Somewhere in the 1960s (I believe) there was published a design article for construction of a SSB transceiver. It was all solid state, was intended for 20 meters, was about 1/4 watt output power, and specifically was designed to run from a 6 (not 12) volt power supply. It was about the size of a cigar box as I recall, and the author had intended to use it in his Volkswagen bug, hence the 6 volt power supply limitation. I'm trying to track down the article with this limited information. If you recall seeing something like that in one of your old magazines or handbooks, could you let me know the reference, or even better yet make a copy of the article? I think it was the first published design for a all solid-state transceiver for SSB, and I'm interested in duplicating it.

73 Dave WB0GAZ dgf@netcom.com

202. Funky bias setup in VHF linear amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DKvJIL.67F@sunsrvr6.cci.com>
Source record: 108320

The schematic for a Mirage 2-meter linear amp shows a bias arrangement that looks peculiar.

There is the usual rectifier diode from transistor base to ground with a fixed resistor and trimmer potentiometer in parallel. This part looks normal.

What was odd was the bias supply: Instead of being fed by a DC voltage it was connected to the transistors collector through (here's the wierd part) a series resistor, capacitor and choke.

How is this supposed to work? Are they siphoning off some of the output signal and letting the parallel diode rectify it?

73..Jim N2VNO

203. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4csj1d$c92@newsbf02.news.aol.com>
Source record: 108321

In article <820988469.19749@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) writes:

>>The Vomax was a split band audio processor which is superior to RF
>>processing. I still use a modified VOMAX with my 751A.
>
>Tom, could you elaborate on this? I was surprised by your statement,
>given the 8 dB or so improvement possible with RF processing. Of
>course, I can see how splitting the audio spectrum to enable effective
>filtering of harmonics could be as effective, but not more so.

I'll defer to Wes on this, but briefly when clipping is done at audio, you
can process small bands that are are less than one octive wide. Harmonics
from clipping not only fall outside the passband of channels, but mixing
is reduced because there is little likelyhood two tones will appear in one
clipping channel at any one time.

RF clipping does not do this, unless the processor has several very narrow
filters feeding separate clippers.

73 Tom

204. Help HP8654A sig.gen transistor substitute

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-08 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199601082036.GAA17472@dyson.brisnet.org.au>
Source record: 108322

Hi, I am repairing a friend's HP8654A signal generator which has had a dose of RF "up the tail". I have repaired the attenuator but it has two shot transistors in the output amplifier, Q6 and Q7. These are numbered "35824A" and according to local HP are part # 18-54-0696. Does anyone in this group have a cross reference to a "real" transistor, eg Motorola Philips NS etc? The HP spares are difficult to get and a dynamite price, too much for experimenters pockets!. Any help appreciated.
Peter VK4AWP.

205. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: Steve Sawyers n0yvy <sawyers@inav.net>
Message-ID: <4ct03i$482@composer.inav.net>
Source record: 108224
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

A cheaper alternative to paper copies is to get the micro
fiche. It is about 20% of paper and I got a nice fiche
reader at teh the local ham fest for $15.

Now I just order the fiche and forget the paper.Takes up
less shelf space too.

de steve n0yvy

206. Need Pinout 4CX250K (coaxial base)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4ctd2m$m76@newsbf02.news.aol.com>
Source record: 108225

Does anyone have the pinout for the coaxial base 4cx250K? I could also use operating parameters (or "same as 4cx250B" or "same as 4cx250R" or whatever).
Have them in a surplus 432 cavity PA I just picked up. Thanks!
VE3IEY
TantonR@aol.com

207. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ctglh$ns2@newsbf02.news.aol.com>
Source record: 108226

In article <821099029.19663@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) writes:

>
>First, maintaining the correct phase at the output of each filter is
>probably impossible because the shift will vary across each filter's
>passband. I'm not sure how significant this phase shift will be in
>terms of the percieved quality of the recovered audio, but having been
>in the audio business a number of years, it's a troublesome concept.
>Multiple-band phase shift is one of the characteristics of graphic
>equalizers said by many (including yours truly) to degrade their sound
>quality. This may not be a significant issue in this application,
>but I'd be very interested in a critical listening test of the audio
>quality of one of these processors (with the filters active but the
>clipping turned off). To clarify this a little, I'm not just referring
>to the amplitude cancellation that takes place as a result of phase
>shift, but also to the audible effects of the phase shift itself.
>
>

Hi Jack,

Vomax did this by having the "after clipping" filter shift the phase back
at the same slope as the pre-clipping filter. At RF phase control would be
easier, but the filter cost would be pretty high.

I don't see how phase shift would be a problem with DSB as long as a
narrow RF filter is avoided, but then the worry would become the lack of
signal filtering. There must be some BW control before clipping. Perhaps
an audio bandpass filter before the balanced modulator would help, since
as Wes said, the lows should be rolled off a bit before clipping and we
all know clipping out of band audio just adds needless distortion.

I'm working on a DSP based processor now, in between 999 other things.

73 Tom

208. Need voltages for Heathkit HA-14 Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: "G.D.Fender" <eureka@datasync.com>
Message-ID: <4cudha$rvj@osh2.datasync.com>
Source record: 108227

Does anyone know the voltages needed for the Heathkit HA-14 linear amp? I particularily need the bias voltage... Please send e-mail to

eureka@datasync.com

Thanks es 73,

Gary - W6SZX

209. Re: Accurate Clock for Digital Circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4csrb9$li5@hpscit.sc.hp.com>
Source record: 108228

In article <4cron1$1jl@tuegate.tue.nl>, <joopv@etprs.seas.ucla.edu> wrote:
>
>in a DIL-14 house. A simpeler solution is to solder a PTC disc to a crystal
>house. That way the xtal is stabilized at 60 degrees or so.
>
>Siemens has appropriate PTC disks for this purpose.
>
>Joop

Murata also makes these PTC heaters.

Rick N6RK

210. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan9.161003.15384@ke4zv.atl.ga.us>
Source record: 108229

In article <n7ws.21.007833F2@azstarnet.com> n7ws@azstarnet.com (Wes Stewart) writes:
>In article <1996Jan7.200411.6084@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>>Ok, here's the problem. When you go to demodulate DSB back to
>>audio, the output is the vector sum of *both* sidebands with the
>>reintroduced carrier. You know what AM sounds like under selective
>>fading, well the same thing is possible here if the clipping of
>>the upper and lower sidebands isn't precisely symmetrical in both
>>the amplitude and frequency domains. The latter is what's different
>>about DSB. The sidebands are *mirror* images in the frequency domain,
>>so the clipping also has to be mirror imaged in the frequency domain.
>>That's not necessary with SSB.
>
>I have this crazy way of looking at things sometimes. I just said to myself,
>"Self, if you *wanted* to clip each sideband in this DSB signal independently,
>what is the likelyhood that you could do it with a simple clipping
>circuit?" And I answered, "Beats me :-)"

Well, I don't know of any deliberate simple controlled way to do it either,
but what I'm talking about is unintentional and undesired behavior. In
broadcast we call it incidental phase modulation, and it's the result of
sending the signal through a somewhat non-linear system. The phase shift
induced in the two sidebands is different, because they are on different
frequencies, and varies with signal level. When they recombine in the
demodulator, their vector sum is different from the input signal too.
Through a system that deliberately operates non-linearly, the effect should
be much greater.

>>Depending on how the clipper is implemented, there can be considerable
>>differences induced in the phase/amplitude envelopes of one sideband and
>>its mirror image. Those differences will show up as in-band distortion
>>products. I don't have a feel for how great a problem this may be, but
>>I'm sure it is a problem (it is for AM broadcast transmitters using
>>compression), and there's no way to simply filter out these components.
>>My gut feel is that it's important to use a carrier as high in frequency
>>as possible for modulating and demodulating the DSB signal so that
>>the percentage bandwidth is minimized and possible asymmetries in
>>the frequency domain are reduced.

>>Another potential problem is reciprocal mixing in the demodulator.
>>The clipped sidebands will generate a *pair* of harmonics for each
>>audio generated product. To take the steady state example you pose,
>>the LSB will have a harmonic at 11.998 MHz while the USB will have
>>a harmonic at 12.002 MHz. Those two can *also* mix in the demodulator
>>yielding a difference product of 4 kHz which will be in the output

>>audio passband. Now that particular product is high enough to be
>>audio filtered in the output, but consider if there is a 500 Hz
>>component present in the input audio, its product will fall on
>>2 kHz in the output, and that's in the speech band. The obvious
>>solution to this problem is a lowpass filter between the clipper
>>and the demodulator. But that lowpass filter has to be pretty
>>good to eliminate sensible products in the output. The lowpass
>>in a SSB clipper doesn't have to be quite as good since it doesn't
>>have to deal with paired products, IE there are only half as many
>>potential mixing products that can fall in the speech bandwidth
>>of the output with SSB *and* they are unrelated in phase, so
>>there's a potential for at least 6 db worse distortion products
>>out of a DSB clipper than a SSB clipper.
>
>I think it's too late to use a low-pass after the clipper. The intermod
>products can (will) be generated in the clipper. After all, it's a
>highly non-linear device, perfectly suited for mixing. For example:
>
>Two audio tones, 500 and 1000 Hz applied to the balanced mixer along with
>a 6 MHz carrier. Output is 6 MHz (suppressed), 5.999, 5.9995, 6.0005 and
>6.001 MHz. Assume an USB filter. Output is now 6.0005 and 6.001 MHz.
>Clip the hell out of it and get 6.0005, 6.001, 12.001, 12.002, 18.0015,
>18.003... Also, get (12.002-6.0005 = 6.0015) and (18.003-12.001 = 6.002)
>which both fall in the passband of the following LPF and BPF. It might be
>argued that if the clipping is perfectly symmetrical, there won't be a 12.001
>and 12.002, but (18.0015-6.0005 = 12.001) and (18.003-6.001 = 12.002) so there
>they are. The split-band approach doesn't suffer this particular problem.

I agree with this, of course, but I think this high order multiple
mix will be of considerably lower amplitude than the straight products
the filter would remove. You'd need some sort of circulating tank to
keep the base products around to remix with each other to form tertiary
products sensible to the demodulator. I don't think most clipper circuits
have enough tank to do that to any significant degree, but perhaps the
very filter I'm suggesting might supply that tank.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

211. UHF noise source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: Allen Wallace <allen@dtint.dtint.com>
Message-ID: <4cutud$gc8@itchy.itsnet.com>
Source record: 108230

I've got a 1960's UHF noise source which I'd like some information.

It has a tube labled TD-44/7988 and is about 18 inches long. The assembly has two UHF connectors, The tube has two wires.

How did these old noise generators work? what voltages did they use? How much excess noise did the generate?

Thanks,

73

Allen Wallace, N7CGH

212. Re: Funky bias setup in VHF linear amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <4cu0jj$2pao@lamar.ColoState.EDU>
Source record: 108231

James D. Cronin (jdc@cci.com) wrote:
: The schematic for a Mirage 2-meter linear amp shows a bias arrangement
: that looks peculiar.
: There is the usual rectifier diode from transistor base to ground
: with a fixed resistor and trimmer potentiometer in parallel. This part
: looks normal.

The diode keeps the bias voltage at roughly 0.7 volts.

: What was odd was the bias supply: Instead of being fed by a DC voltage
: it was connected to the transistors collector through (here's the wierd
: part) a series resistor, capacitor and choke.
: How is this supposed to work? Are they siphoning off some of the output
: signal and letting the parallel diode rectify it?
: 73..Jim N2VNO

Being connected to the collectors may not mean they're using feedback.
The collectors are probably connected to the positive voltage supply
thru an inductor with a cap in parallel. If the bias gets it's
voltage thru another inductor, the inductor probably blocks the VHF signal,
the cap probably goes to ground to provide an Ac (RF) ground, and the
resistor helps limit the current. This all depends on how large the
inductor is, the larger the L, the less VHF gets thru. It may actually
be a feedback loop to help linearize the amp at VHF and help eliminate
UHF parasitics, but it's hard to say without a schematic and some component
values.

Galen, KF0YJ

213. Re: Funky bias setup in VHF linear amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ctkjp$pop@newsbf02.news.aol.com>
Source record: 108232

Hi Jim,
In article <DKvJIL.67F@sunsrvr6.cci.com>, jdc@cci.com (James D. Cronin)
writes:
>The schematic for a Mirage 2-meter linear amp shows a bias arrangement
>that looks peculiar.
>There is the usual rectifier diode from transistor base to ground
>with a fixed resistor and trimmer potentiometer in parallel. This part
>looks normal.
>What was odd was the bias supply: Instead of being fed by a DC voltage
>it was connected to the transistors collector through (here's the wierd
>part) a series resistor, capacitor and choke.

Don't depend on the schematic to be absolutely correct. What Mirage amp is
it? I'll look at one and tell you how the circuit works.

73 Tom

>
>How is this supposed to work? Are they siphoning off some of the output
>signal and letting the parallel diode rectify it?
>
>73..Jim N2VNO

214. FS: Miniature Vaccum Relays 5KV 15A SPST Latching $20

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: Steve Sawyers n0yvy <sawyers@inav.net>
Message-ID: <4csuu3$482@composer.inav.net>
Source record: 108233

FS: Miniature Vaccum Relays 5KV 15A SPST Latching

I am not sure this is appropriate for this
newsgroup, but these are definitely builderï¿½s
parts and there has been a lot of discussion the
QST antenna article which prompted me to buy
them.

New Miniature Vacuum Relays

Manufacturer: Kilovac
Model : K41P
Contact: SPST Latching

Contact Ratings:
Freq Volts AMPS
DC-60Hz 5,000 15 A
2.5MHz 4,500 12 A
16 MHz 3,500 8 A
32 MHz 2.800 6 A

Contact Capacitance
Between Open Contacts 1.2 pF
Open Contacts to Ground 1.2 pF

Coil Voltage: 26.5 VDC Momentary
Coil Resistanc : 80 Ohms
6 ms minimum pulse
Not for Continuous Duty

Operate Time Max: 6 milli-seconds

Shock load rating: 30 Peak G's

Operating Temp.: -55 to +125 degrees C

Mechanical Life: 1,000,000 Cycles

Nominal Weight: 1 oz.

These are approximately 1/2ï¿½ in Diameter and 2ï¿½
Long. They are designed for Mid body flange
mounting, and mounting must be grounded.

Note: There are two coils, one to open and one to
close. Coils can only take a pulse, as continuous
loading will fry them, but it only takes a 10 ms
pulse to kick them on or off.

They are used in military automatic tuning couplers. They are new in factory boxes of 42 each. I stumbled across about 1000 of these and had to buy them all to get what I wanted. So decided to sell the excess. I have about 300 of them left, but may be able to get more.

Will sell any quantity.

Price: $20 Each

$5 Shipping and $5 COD (if applicable) per order
Free shipping and COD of orders of 10 or more.

I called KiloVac and they are quoting $75 each in quantity 100, Jennings has a similar part at $48 for quantity 100.

Best installation is to mount thru a drilled aluminum plate to provide shielding between high voltage RF and control voltage.

I am going to use them for a high power version of the QST automatic antenna tuner. Will need to beef the coils and caps, but the micro processor won't care. It does take a circuit mod to drive two coils on the transition rather than one via level, and the sensor needs to be redesigned. Am also going to use for tower mounted switch boxes using a 3 to 8 decoder and a little driver logic.

I am sure other people have other ideas.

Steve Sawyers (n0yvy) sawyers@inav.net
1822 Somerset Drive
Marion IA 52302

evening phone(CST): (319) 377-2877

215. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: "BICC Info. Center" <W234@ohsu.edu>
Message-ID: <4csga9$lrk@fremont.ohsu.edu>
Source record: 108234

I have read all of the above mentioned comments and I agree with the just of what is being said. What I am wondering is does the tuner work as billed or would I be better of buying a AT-50 for my IC-706 I see one person had had good luck with this combo does anyone else have more to say ???

You can Email me at ashleyb@ohsu.edu if possible or just post it.

Thanks

Brad WB7TSO

216. Re: UHF noise source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.24.00C6146E@azstarnet.com>
Source record: 108235

In article <4cutud$gc8@itchy.itsnet.com> Allen Wallace <allen@dtint.dtint.com> writes:
>From: Allen Wallace <allen@dtint.dtint.com>
>Subject: UHF noise source
>Date: 9 Jan 1996 23:32:29 GMT

>I've got a 1960's UHF noise source which I'd like some information.

>It has a tube labled TD-44/7988 and is about 18 inches long. The assembly
>has two UHF connectors, The tube has two wires.

>How did these old noise generators work? what voltages did they use? How
>much excess noise did the generate?

>Thanks,

>73

>Allen Wallace, N7CGH

Allen:

I could be (and probably am) way off here, but this sort of sounds like a gas discharge system. In the ancient past, we used waveguide versions which had a gas filled tube inserted at an angle through a waveguide. One end was terminated and the other was the output spigot. I seem to remember ENRs of 15 dB or so. We had systems by both HP and AIL. If this is a gas tube, then it requires a high voltage pulse to fire it. I can't remember what "high" means any more though:(One caution: if it is a gas tube and you learn how to power it, these were very likely to generate voltage spikes at the output which would be instant death for modern solid-state devices.

73, Wes -- N7WS

217. Where's Doug Hall/WB4LJK?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: mai@iquest.net
Message-ID: <DKxArv.585@iquest.net>
Source record: 108236

Trying to locate Douglas L. Hall Sr., General class ham, about 53 years old, last known to be in SANFORD,N.C.
Had a PO box and a telephone #(919)776-6574, but not been able to find since he 'moved on'. If you know Doug and/or can help me locate, please email info or your phone number - I'll call you for details!

Thanks for any help.

Patrick/WB9IQI

218. Re: QST Tuner article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4cshub$k98@abyss.West.Sun.COM>
Source record: 108237

In article <9600058208.AA820863233@mails.imed.com>,
<mack@mails.imed.COM> wrote:
>I foolishly posted several opinions on this subject over on qrp-l (or
>was it boat anchors?) just before the holidays. I had only scanned
>the article with the Christmas rush coming.
>
>Many of the posts criticizing the authors and QST have lamented not
>being able to take the article and produce a project ranging from
>totally built from scrounged parts to bought the kit from the authors
>and put it together. I find that this article allows exactly this
>range!

My criticism, which I don't think I've tossed into this particular iteration of the "no source code available" discussion, is a little different.

Just as any construction article contains a schematic of the hardware components, the source code is analgous to a schematic of the software components. Seeing the details of both can be quite educational; seeing the details of how one designer elected to split functionality between the two is especially useful.

Making embedded code invisible discards a very important learning opportunity.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

219. Re: OLD 20M HB SSB/CW XCVR - early 60s?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <821256923.24518@pinetree.microserve.com>
Source record: 108238

dgf@netcom.com (David Feldman) wrote:

>Somewhere in the 1960s (I believe) there was published a design
>article for construction of a SSB transceiver. It was all solid
>state, was intended for 20 meters, was about 1/4 watt output power,
>and specifically was designed to run from a 6 (not 12) volt power
>supply. It was about the size of a cigar box as I recall, . . .

The article was titled "A Solid-Statte S.S.B. Transceiver" and the
author was Benjamin H. Vester, W3TLN. The circuit design uses a
combination of PNP and NPN bipolar transistors and an 8.55 MHz IF
constructed around a homebrew crystal filter.

I don't have the original QST this appeared in, but the article was
reprinted in the 1970 edition of "Single Sideband for the Radio
Amateur". E-mail your address and I'll send a photocopy.

73,
Jack WB3U
jackl@pinetree.microserve.com

220. Re: Kenwood on internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: Glenn.Schultz@f100.n282.z1.fidonet.org
Message-ID: <821225582.AA04923@hamlink.mn.org>
Source record: 108239

```
Try their dial-up BBS at: 1-310-761-8284
Good Luck!
Glenn
n0vyk@n0vyk.ampr.org [44.94.248.210]
```

221. Re: Help with MC68HC705C8 Programming

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: garyb@psych.ualberta.ca
Message-ID: <4cu2oa$frc@pulp.ucs.ualberta.ca>
Source record: 108240

In article <rlong-0601961256220001@slip3-3.acs.ohio-state.edu>,
rlong@magnus.acs.ohio-state.edu (Ron Long) wrote:
>Hello,
>
>I want to program a OTP (one time programmable) Motorola
>microcontroller MC68HC705C8 using a circuit given in the
>Motorola manual which transfers data from a 2764 eprom into
>the controller.
>
>The question is the data book is unclear about the programming
>voltage (Vpp). At one place it says 16 V maximum but it never gives
>a typical or 'correct' voltage? 12 Vdc? Is 13.8 Vdc ok?
>
>Thanks for any help.
>
>Ron, w8gus.

You are right, I could not find that spec in the data book, either.
However, another source is the Technical Documentation, available on the
Web at http://design-net.com/csic/Tech_data.html , one of Motorola's many
resources. You have to register, which is not much of a chore. The
documents are in PDF format, so you need to get the Acrobat reader from the
Adobe site. There is a link at Motorola. Make sure you get version 2.1 .

The spec you need is : @Vdd = 5 volts and Vss = 0 volts, Vpp = 14.5
volts min. , 14.75 volts typ. , and 15.0 volts max. Thes figures are from
the electrical specifications section. The document is also much more
descriptive of the various features of the processor.

Regards, Gary VE6BBD

222. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: Mike Queally <mikeq@sbi.com>
Message-ID: <DKxnun.4LH@meteor.sbi.com>
Source record: 108241

griffithj@ricks.edu (James Griffith) wrote:
>In article <4c6es2$394@mgate.arrl.org>, ehare@arrl.org says...
>>
>>griffithj@ricks.edu (James Griffith) wrote:
>>
>>>>QST is sold at most major news stands and magazine racks now. You
>might
>>>want to try that. The artical is not that big a deal. It's an
>>>advertisment so its writer can make money. It would be difficult to
>>>duplicate without buying their kit. QST is going same way Popular
>>>Electroncs went years ago, selling kits with articles.
>>
>>Hello, Jim,
>>
>>I don't kwow if I would go *that* far. First, ARRL doesn't sell the
>>kits; the authors do. From the feedback we have received from readers,
>>most readers *prefer* construction articles that have kits. And, in
>most
>>cases, even if a construction project has a kit, the builder can still
>>dead-bug it, if he or she chooses. This tuner article is almost an
>>exception to the rule, in that it requires a part that is available only
>>from the author. However, the author will gladly sell the
>>progrmammed IC only for those who want to locate all the other
>>parts themselves. (I wonder if *anyone* will take him up on the
>>offer; I want the kit! :-)).
>>
>>
>>>
>>
>>I don't mean to sound like a "wet blanket", and I don't know your age,
>mine is 52. But, I remember the exciting time when, with almost nothing
>at all, one could get on the air with something he or she built. Or, if
>you were intrested in just building an electronic project from Ppopular
>Electronics, you were able, because at the age of 12 or 13 you didn't
>have the money to by that one part that could only be bought from that
>special place, who ever or were ever it might be.
>
>Have you ever longed to build something electronic at the age of 12 or
>so, and had no money, but the author gave you a way to do in in the
>article, like the code for the chip, or the turns count and size of the
>coil.
>
>I believe,(This is only me talking.) and I am a member of ARRL and you
>have published 2 very popular articles I wrote, at least my fan mail said

>so, that QST is no longer a member publication devoted to ham radio, FOR
>THE LOVE OF IT, but has gone into business, targeting those people who
>would buy more magazines, (Your on the news stand now.) books, and other
>offers the ARRL has, and has geared it QST publication toward them.
>
>.............
>
>That is why the missing chip code to the ATU article is importent. Not
>because you can build the unit by odering the part, but because you can
>not say, on the air, I programed the chip myself from and article in QST.
>
>

I also don't understand why QST would publish an article for
a project that you can not get a part for from somewhere other then
the author at a high price. what if I already have a chip and the
ability to program it. I do not care to see the source code. If he
could have provided a binary file to download from arrl BBS at least
then I can program the chip myself.

--
Mike

223. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4ctr2a$m06@ixnews8.ix.netcom.com>
Source record: 108242
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Two other sources of manuals which I've used in the past are:

Ed Matsuda (San Diego) 619-479-0225

Manuals Plus (Spanaway, WA - but they're in the process of moving
to Utah) 206-531-8031 (this should forward to the
Utah office).

Interestingly, I just received an 8410A/8411A manual from Ed yesterday.
Send me the original question, and I'll check up on it.

- Jeff, WA6AHL

224. Re: Help HP8654A sig.gen transistor substitute

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-09 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4csrn3$lk5@hpscit.sc.hp.com>
Source record: 108323

In article <199601082036.GAA17472@dyson.brisnet.org.au>,
Peter L. Williamson <peterw@dyson.BRisnet.ORG.AU> wrote:
>Hi, I am repairing a friend's HP8654A signal generator which has had a dose
>of RF "up the tail". I have repaired the attenuator but it has two shot
>transistors in the output amplifier, Q6 and Q7. These are numbered "35824A"
>and according to local HP are part # 18-54-0696. Does anyone in this group
>have a cross reference to a "real" transistor, eg Motorola Philips NS etc?
>The HP spares are difficult to get and a dynamite price, too much for
>experimenters pockets!. Any help appreciated.
>Peter VK4AWP.

1854-0696 is a Philips BFQ22S, 4.2 GHz. F-sub-t at 30 mA.
Hope that helps.

Rick Karlquist, N6RK
rkarlqu@scd.hp.com
Hewlett-Packard Santa Clara Division

225. Kenwood TH79 Faster Scan Rate

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: ahusik@pluto.njcc.com
Message-ID: <4cv7od$f6v@earth.njcc.com>
Source record: 108243

The removal of diode modification certainly extends the TX/RX capabilities of the radio, however, I think the unit scans at a slow rate. Has anyone discovered a way (via swapping a part or other) which will change the rate? I will probaly end up calling Grove's to see if they know of a way to solve the problem, however, I wanted to ask here first.

Thanks,

Adam Husik
KB2UTP

226. VXO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.821262623@bauv111>
Source record: 108244

Can you give me information about good available VXO ?

Many thanks.

Claude

227. Standard Modification

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: ahusik@pluto.njcc.com
Message-ID: <4d0ilt$s5k@earth.njcc.com>
Source record: 108245

Would anyone who has performed the Standard C508A modification be willing to answer a few questions for me via email. I can't figure out how to get the battery out (I tried a soldering iron but it wouldn't come out... is it really necesary to remove it?) Also, I <think> I see the SMT component for cell rx (all the way in the upper-right corner?) but I cannot find the extended rx/tx one by the CPU. What CPU!?!

I'm going out of my mind. Anyone out there that can help?

Adam

228. Re: Need Pinout 4CX250K (coaxial base)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4cv2dc$a14@news.iii.net>
Source record: 108246

Hey!
You actually have an amplifier that uses the 4CX250Rs???

I have about 50 of the tubes still in the sealed cans.

I have the varian spec sheet for the tubes too.

What freq. range was the amplifier built for?

Tom
WA1RHP

229. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <4d0kr1$1nl@proffa.cc.tut.fi>
Source record: 108247

jackl@pinetree.microserve.com (WB3U) wrote:

> w8jitom@aol.com (W8JI Tom) wrote:

>>The Vomax was a split band audio processor which is superior to RF
>>processing. I still use a modified VOMAX with my 751A.
>
> Tom, could you elaborate on this? I was surprised by your statement,
> given the 8 dB or so improvement possible with RF processing. Of
> course, I can see how splitting the audio spectrum to enable effective
> filtering of harmonics could be as effective, but not more so.

I have wondered about this too. I know that multi-band processors
are used to reduce the dynamic range (eg. in Dolby A and in more modern
variants), but usually it is about reducing the dynamic range from, say
60 dB to 40 dB for storage on tape etc.

However, if you are going to use aggressive clipping to reduce the
peak to average ratio, I do not see how tis would improve the situation
a lot. If you split the signal into multiple subbands, clip each of them,
filter out any out of band harmonics and combine the subbands into a
single stream for transmission, you can still get some nasty high peaks,
if the phase relationship is unfavorable.

Think about a simple waveform consisting of frequencies f and 2f and both
have the positive peak at the same time (this resemples the speech
waveform). aAssume that f and 2f fall into different subbands as clean
stable sinus signals with no need for clipping. Summing these signals
and you get a positive peak twice as high as the individual signal. This
corresponds to four time peak power in an SSB transmitter compared
to a single tone. You have gained nothing with a multiband clipper.

[About DSB clipping]

> I thought about that too, but I don't see how the distortion products
> could fall in the RF passband. For instance, let's say the balanced
> modulator is operating at 6 MHz and that it's modulated with a 1 KHz
> tone. The output will be two carriers (DSB), one at 5,999 KHz and
> the other at 6,001 KHz. What combination of those two carriers
> produces a distortion product that falls near the two fundamentals?

How about third (and 5th) order intermodulation products ?
2*6001-5999 = 6003 kHz and 2*5999-6001=5997 kHz and after detection
you have two signals at 3 kHz.

However, a single tone is not a realistic test signal for a clipper.
Assuming a simple two tone signal with 400 Hz and 1000 Hz tones, you get

in addition to the 3rd order products for the 1000 Hz tones (as above)
also the 3rd order products of the 400 Hz tones.

Calculating all the intermodulation products up to the 5th order,
will for the DSB case products produce within +/- 4 kHz of the DSB carrier:

<deleted 41 intermodulation product below 6.000,
which are images of those above 6.000>

3rd order 6.0002, 6.0010, 6.0012, 6.0016, 6.0018, 6.0024, 6.0030 MHz

5th order 6.0002, 6.0004, 6.0006, 6.0008, 6.0008, 6.0010, 6.0012,
6.0016, 6.0018, 6.0020, 6.0022, 6.0024, 6.0026, 6.0030,
6.0032, 6.0032, 6.0036, 6.0038 MHz

After the product detector you get intermodulation products practically
every 200 Hz.

In SSB clipping the only intermodulation products that fall within
4/- 4 kHz of the carrier are:

3rd order 5.9998, 6.0016 MHz
5th order 5.9992, 6.0022 MHz

if there is an USB filter after the clipper, the only audible IM products
are 1.6 kHz and 2.2 kHz.

If you run the test with more tones that are not harmonically related
to each other, the difference is even more evident.

Paul OH3LWR

--
Phone : +358-31-213 3657 Mail: Hameenpuisto 42 A 26
Internet: Paul.Keinanen@cc.tut.fi FIN-33200 TAMPERE
Telex : 58-100 1825 (ATTN: Keinanen Paul) FINLAND
X.400 : G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI

230. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan10.161525.19926@ke4zv.atl.ga.us>
Source record: 108248

In article <821098902.19663@pinetree.microserve.com> jackl@pinetree.microserve.com (WB3U) writes:
> gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>
>>You know what AM sounds like under selective fading, well the same
>>thing is possible here if the clipping of the upper and lower
>>sidebands isn't precisely symmetrical in both the amplitude and
>>frequency domains. The latter is what's different about DSB.
> <snip>
>
>Looking at this somewhat empirically, the RF processor in my previous
>rig clipped the SSB signal at an IF frequency of 3.18 MHz. Because it
>was SSB, the passband width was approximately 3 KHz. That means the
>passband width was 0.094%, only slightly less than the 0.1% for the
>DSB processor at 6 MHz. If this percentage bandwidth can be
>symmetrically clipped for SSB at 3.18 MHz, would you agree that non-
>symmetrical clipping probably won't be a factor with DSB at 6 MHz,
>assuming the circuitry is otherwise similar?

I couldn't say, because one case is SSB and the other is DSB. There's more than just bandwidth at stake here. SSB demodulation is just a down-conversion mixing process. If there are phase shifts between the highest and lowest frequencies, you just get a little time distortion, IE the old click-boom effect familiar to users of horn speakers. But DSB demodulation is different. There, the output audio is the vector sum of the two sidebands with respect to the reinserted carrier. If one sideband is phase delayed with respect to the other, amplitude distortions and waveshape changes occur in the output.

Any shaping done after modulation and before demodulation may result in a phase delay between the matching components of the sidebands, and that will in turn lead to amplitude and waveshape distortion in the output audio for DSB. I believe the correct factor we should be concerned about is called group delay.

The classic example of this occurs in a VSB TV transmitter. You'll get a nasty spike on the tip of sync when you demodulate the signal because one sideband is delayed differently than the other through the transmitter. The cure requires *predistorting* the modulating waveform so that the incidental phase delay introduced by the system is cancelled out. The bandwidth for a channel 11 transmitter and H sync is 0.015%, but that's not the important measure. The important measure is the differential delay through the system. That only needs to be a few degrees

at 200 MHz, a very small time difference indeed.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

231. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan10.161901.20012@ke4zv.atl.ga.us>
Source record: 108249

In article <4ch6gf$56k@abyss.West.Sun.COM> myers@West.Sun.COM (Dana Myers) writes:
>One technique I've used and seen used elsewhere to reduce the noise
>on a power line is to insert an emitter follower into the
>power line. The base of the emitter follower is biased from a
>resistive voltage divider attached to the collector (which forms
>the "input"), and a fairly large filter capacitor in parallel with
>a smaller one is attached from the base to ground. I've never
>actually measured the noise reduction of this arrangement, but
>SPICE suggests it is significant. I believe it is fair to
>analyze this circuit as an RC low pass filter with an emitter
>follower added to reduce the output impedance.

This circuit is normally treated as an electronically amplified
capacitor, IE it is modeled as a capacitor with a value set to
that of the actual base capacitor multiplied by the transistor
beta.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

232. WTB TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: ac032@freenet.hamilton.on.ca
Message-ID: <4d0qav$493@main.freenet.hamilton.on.ca>
Source record: 108250

Looking for a TRNC for 2 metres something like a PK, MFH or TCP details
to this board
Geoff VE3WP

--

233. Re: Ham Gods and Spectrum Analyzers (Was interesti

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8213108211903@lss.humnet.humberc.on.ca>
Source record: 108251

> In article <4coc5i$kpq@newsbf02.news.aol.com> lrware@aol.com (Lrware) writes:
>>Bravo! Do we have an ex spectrum analyzer designer among us?
>
> No, just a spectrum analyzer user, and sometimes repairman.
>
> Gary
>
> Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary

Gary...Just wondering if you are getting your e-mail ?
I sent you 2 messages within the past few weeks.
Zack Lau tells me that you were messing with a 222 MHz TX strip design.
I'm working on something similar...wondering if you care to share
info ?

Thanks..Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

234. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.26.02237B15@azstarnet.com>
Source record: 108252

In article <1996Jan10.161901.20012@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>From: gary@ke4zv.atl.ga.us (Gary Coffman)
>Subject: Re: VCO power supply noise reduction
>Date: Wed, 10 Jan 1996 16:19:01 GMT

>In article <4ch6gf$56k@abyss.West.Sun.COM> myers@West.Sun.COM (Dana Myers)
>writes:
>>One technique I've used and seen used elsewhere to reduce the noise
>>on a power line is to insert an emitter follower into the
>>power line. The base of the emitter follower is biased from a
>>resistive voltage divider attached to the collector (which forms
>>the "input"), and a fairly large filter capacitor in parallel with
>>a smaller one is attached from the base to ground. I've never
>>actually measured the noise reduction of this arrangement, but
>>SPICE suggests it is significant. I believe it is fair to
>>analyze this circuit as an RC low pass filter with an emitter
>>follower added to reduce the output impedance.

>This circuit is normally treated as an electronically amplified
>capacitor, IE it is modeled as a capacitor with a value set to
>that of the actual base capacitor multiplied by the transistor
>beta.

Be really careful here. I recently had to perform a failure analysis on a VCO hybrid manufactured by a *very* well known semiconductor and hybrid house. For obvious reasons, I must be necessarily vague about some of this.

Under certain conditions, of temperature, voltage and phase of the moon, we were experiencing severe spurious sidebands on the UHF output. This device used a Motorola 7812 chip as the voltage regulator and I pretty quickly ascertained that the regulator was oscillating and modulating the VCO.

Because our application specified certain immunity to noise on the supply voltage to this device, the hybrid manufacturer used an emitter follower as described above to pick up a few dB of noise rejection. Because of space limitations, he had room for only one filter capacitor (.33 uF tantalum) so obviously, he used it on the emitter follower base. However, Motorola specifies a minimum of .33 uF on the input of the regulator chip for stability. Conversations with a Motorola application engineer confirmed this.

By wire-bonding the cap directly to the regulator input, I was able to stabilize the regulator, confirming that this was the problem. Lesson learned:

The capacitance multiplier idea may work sometimes, but without *very* careful analysis, you might get into real trouble.

Regards,

Wes -- N7WS

235. NiCAD Charger Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: "Paul D. Seyler" <Paul_Seyler_at_AOS500@admin.tc.faa.gov>
Message-ID: <30F3FCB3.2EA8@admin.tc.faa.gov>
Source record: 108253

Has anyone built or designed a peak detector type NiCad battery charger?
If so, are the schematics (or construction acticle) available?

236. Re: Using HP8690 with HP8410 Network Analyzer ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4d1fsi$9gb@news.calweb.com>
Source record: 108254
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Steve Sawyers n0yvy <sawyers@inav.net> wrote:
> A cheaper alternative to paper copies is to get the micro
>fiche. It is about 20% of paper and I got a nice fiche
>reader at teh the local ham fest for $15.
>
>Now I just order the fiche and forget the paper.Takes up
>less shelf space too.
>
>de steve n0yvy
>
I just go to the local library and use their viewer/printer to get
my paper copies. The service from HP has been very good.
Bill K7NOM

237. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <4d1clt$c1q@mgate.arrl.org>
Source record: 108255

Mike Queally <mikeq@sbi.com> wrote:

>I also don't understand why QST would publish an article for
>a project that you can not get a part for from somewhere other then
>the author at a high price. what if I already have a chip and the
>ability to program it. I do not care to see the source code. If he
>could have provided a binary file to download from arrl BBS at least
>then I can program the chip myself.

I would not characterize the charge for the chip as "high price" -- the author offered it with a socket for $20.00 -- perhaps a few dollars at most over the unprogrammed device cost.

Don't get me wrong; I agree with those who are telling us all that a construction article is more valuable to the reader if it has source code. I agree with the relative few who will scrounge all the parts and program their own microprocessor that an article that is essentially a technical description of a kit is less valuable than one that is more complete. When the author offered the block diagram, I think we erred in not making the block diagram available somehow. I agree with those who feel that as a matter of principle QST should publish articles that are educational.

I have to wonder, however, whether that principle should not be flexible. I have heard from a number of folks who are glad we ran the article, because even with its lack-of-full-information flaws, it was a useful article. Would it really be right for us to see a really neat construction-project article and decide that we were not going to share it with anyone because a relative handful of people who want to program their own IC think that we should not? For old construction pros like you and I, it is a big deal to program our own IC; for many of the newcomers, it is a big deal to pick up a soldering iron and build anything useful at all. Perhaps we can say that this article was written for them, and if we feel an aritcle is not useful because it is missing something, turn the page and move on to the next.

I have been somewhat surprised to see some of the turns this thread has taken. I have seen a few posts that seem to imply that because QST *occasionally* has run an article that doesn't offer source code, that *none* of our articles are complete. In reality, over the past three years, QST has, if memory serves, offered two articles that didn't include source code. FWIW, those two have proved to be among the most popular construction projects, based on the semi-formal counts we always get from the authors. I think that tells me that we have chosen the exceptions to our informal "rules" wisely. (We *do* encourage all authors to make source code available, and will continue to do so. We have even

changed a few minds along the way.)

All in all, I think QST offers a good balance of articles, ranging from some higher-tech articles, lots of articles for the middle ground and a substantial section of articles that are chosen because they would interest newcomers. (Now, for me, the DXCC and contest results hold little interest, but I just assume they are there for someone else and let it go at that.) I would join the howls of protest if all of our articles became the "buy the kit" articles, but really don't mind seeing the occasional gem that is like the auto-tuner-kit article.

73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

238. Mailing list in Digest format vs. ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: John&Suzie_Rollins@pmug.ORG
Message-ID: <607453150.59331179@pmug.org>
Source record: 108256

I am currently recieving this mailing list in digest format, and I was wondering how to change it to normal eMail, as I find the messages difficult to read when in gigest form. TIA and 73

-JR

239. Re: UHF noise source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4d1fkj$9gb@news.calweb.com>
Source record: 108257

Allen Wallace <allen@dtint.dtint.com> wrote:
>I've got a 1960's UHF noise source which I'd like some information.
>
>It has a tube labled TD-44/7988 and is about 18 inches long. The assembly
>has two UHF connectors, The tube has two wires.
>
>How did these old noise generators work? what voltages did they use? How
>much excess noise did the generate?
>
>Thanks,
>
>
>73
>
>Allen Wallace, N7CGH

Ok I will make a fool of myself. Maybe someone can correct me but I
seem to remember that a Mercury vapor lamp (florecent lamp) can be used
as a noise generator. You can calculate the noise temperature from
the lamp current. I seem to remember that DC was used to power the lamp.
I think this design goes back to the 1950 - 1960 time frame.
Bill K7NOM

240. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: griffithj@ricks.edu
Message-ID: <DKzBMx.C5B@ricks.edu>
Source record: 108258

In article <1996Jan6.180544.1100@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us says...

>Note: I don't fault the author, he's just trying to make a buck. I
>fault the editors of QST for paying for and publishing this advertisement
>in lieu of publishing something that would *teach* the reader something.
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |

Gary, I don't know aoubt fair or unfair, what you have said it all true! We would hope, now, that by all these comments on this article, by all who have commented. That QST gets a hint. That all togather we have niped in the bud, this pratice of uneducational articles, based on the "I am in busness concept."

If you noticed one of the other postings, they are out of parts, for the ATU now, and have had many request. The article is done, there is no more parts, and no educational value was received.

Thank you for your comments, to someone who was "hot undert the collor" when he was writting.

Jim, WA7NDD.

241. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan10.154150.19780@ke4zv.atl.ga.us>
Source record: 108259

In article <4coesd$mg7@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>I wonder if anyone looked at the voltage a MOV requires before the
>resistance really drops a lot, and compared that to the current the device
>you are protecting would be drawing at the same voltage. It's been a while
>since I looked at them, but when I did they almost were worthless for
>power line protection.

Typically a MOV will be in hard conduction at 150% to 200% of its
rated working voltage, IE for a V130 that would be 195 to 260 volts.
It'll reach hard conduction a few nanoseconds after a transient reaches
that value, and remain so until the transient decays (up to the peak
joule rating of the device). Now assuming the PS being protected has
a dV/dt longer than a few nanoseconds, the transient will be safely
clamped before damaging voltage can pass through.

Remember a MOV isn't intended to be an overvoltage protector,
it's a *transient* surge protector. It won't protect a PS if
the line voltage rises to 140 volts for a sustained time, but
it will keep transient peaks below values that could punch
a junction or an electrolytic cap in the supply. (It is assumed
that a good PS design will use parts rated for peaks at least
150% to 200% of their planned sustained voltage.)

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

242. Re: Ten Tec 2M Transceiver Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: <>
Message-ID: <4cv5v9$ilh@mozz.unh.edu>
Source record: 108260

>> Does anyone knwo if Ten Tec ever intends to produce this kit or is
>> it permanently "temporarily discontinued" ?

>I was told that the 2-meter transceiver kit should be available
>within the next month or 2. (They say that they will not release

When I spoke with them around January 1, the expected release date
was February 1. I'm really looking forward to the release of this kit.

_ _ _ _ _ _ _ _
-Drew || o || NV1B CFO#963 CW || o ||

243. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.821262732@bauv111>
Source record: 108261

w8jitom@aol.com (W8JI Tom) writes:

>I'm working on a DSP based processor now, in between 999 other things.

Can you give us more information about this work ?

Thanks es 73,
Claude

244. Re: Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <4d13uu$b01@mrnews.mro.dec.com>
Source record: 108262

In article <1996Jan4.163659.21155@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes...
>Now that should give you an idea how to increase the value of your
>homebrew gear on the market. Make sure there is full documentation,
>operating instructions, schematics, theory of operation, parts lists,
>and even X-ray view board layouts if applicable.

And, based on the Motorola Micor standard of documentation: test and alignment procedures, test equipment, circuit revision lists.

The last thing I do for any homebrew project is to draw up a nice, neat schematic, by hand or Postscript. I put in a few annotations to help explain anything that might be good to know down the road. If possible, I also make a little bitty photocopy of this to tape inside the cover of the project itself. I have them all together in a 3-ring binder next to my workbench. If I want to modify a circuit, the schematic is in my hands in seconds.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@est.enet.dec.com
==========

245. Re: Low Noise Linear Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30F4618C.2E3B@arrl.org>
Source record: 108263

Dana Myers wrote:

> Is the LM723 spec taken using the integral pass transistor?

As I understand the specs, they refer to Fig 1 on page
1-185 of the Power IC's Databook. Presumably, a load
is attached to draw 1 mA from a 5 volt regulator running
off 12 volts. Thus, the answer appears to be "yes."

Zack KH6CP/1 zlau@arrl.org

246. Re: recommend good kids' crystal set?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4d1f98$9js@newsbf02.news.aol.com>
Source record: 108264

Ramsey electronics markets one with a real piece of galena in it. You can reach them at (716) 924-4560 weekdays.

247. Need Mod for KENWOOD TR-7850

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: Rahul Patel <RAHUL_PATEL@hp-usa-om14.om.hp.com>
Message-ID: <4d16eo$lu5@hpuerci.atl.hp.com>
Source record: 108265

I know this a older Kenwood 2m radio. I would like to get all/any modification that anyone has
come across for the radio. Thanks a lot in advance.

73,
Rahul Patel - N4RWZ

248. Re: NiCAD Charger Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4d1714$grd@hpcvsnz.cv.hp.com>
Source record: 108266

Paul D. Seyler (Paul_Seyler_at_AOS500@admin.tc.faa.gov) wrote:
: Has anyone built or designed a peak detector type NiCad battery charger?
: If so, are the schematics (or construction acticle) available?

There are several manufacturers of ICs that do most of the job. For example, if you just follow the circuits in the Maxim data sheet for the MAX712/713, you can build a "universal" charger that you switch the number of cells on, or a "custom" charger for a fixed battery size. They show both switching and linear types of circuits; the linear is far simpler and I'd say to go with that unless you really need the power efficiency. DigiKey lists these parts at just over $6 each. I couldn't say if the Maxim parts are the "best", but they should be available and seem to do a reasonable job.

--
Cheers,
Tom
tomb@lsid.hp.com

249. Re: QST Antenna Tuner Kit-First Impressions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4d0i9n$t2j@newsbf02.news.aol.com>
Source record: 108267

In article <4cs1fu$394@service-2.agate.net>, John Wilcox/NS1Z
<ns1z@agate.net> writes:

>
>Well, I built the kit and was very happy with it. I had no problems with
>solder connections. The traces are fine (as in thin!) but seem to work
>for my setup. I run the tuner under my ICOM IC-706 in my old S-15 Jimmy
>and have had it in there for a few weeks now with not one problem. Time
>heals all wounds and, in the case of the tuner, may open some... I have
>had some correspondence with Dwayne and expect if a problem were to
>develeop I could count on him to provide any assistance possible. I would

>not only built another (if I needed it) but have heartily recommended it
>to my friends locally. It sure beats the old MFJs!
>--
>John Wilcox / NS1Z

Hi John,

Can you tell us how the software does it's thing? I'm curious about that.

73 Tom

250. How make a (T/R Swich) ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: evincent@mediom.qc.ca
Message-ID: <4cvgot$8p6@news.worldlinx.com>
Source record: 108268

I have a TH-78A, I want to drive a T/R Swich with my radio and I don't have any idea to make that.

Please help me!!!

Thanks, Eric VE2-VXT (evincent@mediom.qc.ca)

251. TSCM Counter Surveillance & Technical Security Page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-10 00:00:00 UTC
From: jmatk@tscm.com
Message-ID: <jmatk-1001962022020001@jmatk.tiac.net>
Source record: 108269
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,alt.radio.scanner

We now have over 600 pages of materials on-line, over 200 photographs,
hundreds of frequencies... and we're growing rapidly

http://www.tscm.com/

Detailed listing of tools
Comprehensive reviews of TSCM equipment
Huge Publications listing
Comments on TSCM training courses

James M. Atkinson "...Shaken, not Stirred..."
TSCM.COM
127 Eastern Avenue #291
Gloucester, MA 01931-8008
URL: http://www.tscm.com/ E-Mail: jmatk@tscm.com

The First, The Largest, The Most Popular, and the Most
Complete TSCM Counterintelligence Site on the Internet

252. Amidon?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: fflynn@together.net
Message-ID: <4d3bq3$8bm@bristlecone.together.net>
Source record: 108174

Does anyone have a current address and phone number for Amidon Associates?

The phone number I have is 213 763 5770, it's disconnnected. Directory assistance was no help either.

If they are gone, does anyone have a good source of toroids?

TIA 72/73

--
http://together.net/~fflynn
Francis Flynn, fflynn@together.net
ARS:KM1Z

253. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: G.Moretti@massey.ac.nz
Message-ID: <4d2ads$942@cc-server9.massey.ac.nz>
Source record: 108175

Hi

Interesting discussion ... I built one of Wes' Split band speech processors and I'm still using it - works great - thanks Wes.

An idle thought regarding comprehension. Has anyone tried using formant filters rather than just 300-3000 speechband filters? I'm mainly thinking about receive filtering but possibly in a processor as well. I vaguely remember a simple RC filter years ago (from NASA) that was supposed to put notches into the transmitted audio where there shouldn't be any speech info.

Ring any bells?

Cheers
Giovanni ZL2BOI - currently discovering 40M after years with an 80/20 QRP SSB rig.

254. BFO Project Questions ?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: "Brian C. Dolan" <bdolan@netwest.com>
Message-ID: <4d1rnv$81i@news1.netzone.com>
Source record: 108176

I recently downloaded a small schematic for a BFO synthesizer add-on for SW receivers, that I found on a QRP related site. Within the brief text associated with the schematic, it states:

"The heart of this project is a 455 kHz IF transformer: go to your closest junked broadcast radio receiver and steal one from there."

Not knowing what a "455 kHz IF transformer" is, and being an inquisitive guy, I pried open the nearest cheapo AM radio and found some things I recognized, and some I didn't. Process of elimination led me to rule out the resistors, capacitors, coils (chokes?) and transistors. This left the metal "cubes" (7 in this case),each with a hole in the top. In the hole is something with a flatbladed screwdriver slot in it. Is this an IF transformer? If it is, can someone briefly explain what it does? Additionally, each one has a different color in it; what does the color signify? (...maybe the 455 kHz aspect ???)

Later in the text, it states:

"Adjust the transformer slug until it resonates at 455 kHz, which can be accomplished using a receiver or GDO. AS you tune the slug (using the receiver) you should hear the heterodyne note of the BFO lowering in pitch until it eventually zero-beats."

This section left me scrathing my head. I assume it has something to do with those screwdriver slots, but I have no idea what it's trying to get me to do. How would I use a receiver to do this? What is a GDO? What is "zero-beats"?

Answers to the above questions, as well as any general advice would be greatly appreciated.

Thanks in advance for helping a new ham,

Brian
KC7JRT

255. Re: Amidon?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: gregp@primenet.com
Message-ID: <gregp-1101961856470001@ip201.msp.primenet.com>
Source record: 108177

In article <4d3bq3$8bm@bristlecone.together.net>, fflynn@together.net
(Francis Flynn) wrote:

> Does anyone have a current address and phone number for Amidon Associates?
>
> The phone number I have is 213 763 5770, it's disconnnected. Directory
> assistance was no help either.
>
> If they are gone, does anyone have a good source of toroids?
>
> TIA 72/73
>
> --
> http://together.net/~fflynn
> Francis Flynn, fflynn@together.net
> ARS:KM1Z

Try:
PO Box 25867
Santa Ana, CA 92799
714-850-4660

Greg Putrich / gregp@primenet.com [II]

PGP-Key 27E97EBD = 62 0E B9 A2 45 D2 64 AC 8A B4 6D 9D 5B 23 90 1F
So little to do, so much time.

256. Re: recommend good kids' crystal set?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: kell@mpac.jsc.nasa.gov
Message-ID: <kell-1101960740570001@toad.jsc.nasa.gov>
Source record: 108178

In article <4d1f98$9js@newsbf02.news.aol.com>, tantonr@aol.com (TANTONR) wrote:

> Ramsey electronics markets one with a real piece of galena in it. You can
> reach them at (716) 924-4560 weekdays.

Also you can check Antique Radio Supply. They have a variety of parts and
etc for these. 602-820-5411 voice

257. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960111094750.13406E-100000@biggulp.callamer.com>
Source record: 108179
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Let add that the NE 602 apparently has been improved for higher dynamic range. The newer chip has LARGER writing on the package than the old. Now how much greater the dynamic range might be is not known as I have yet to find a source of the newer chip. That MAY be why there have been so many requests lately as to where might the NE602 be bought! Cliff W6HDO

On 4 Jan 1996, Dana Myers wrote:

> In article <137cc$16c20.255@news.ak.net>, Hello <opworld@worldnet.fr> wrote:
> >Hello,
> >
> >Is there a remplacement for this chips ?
>
> The NE602 is very popular, with an on-board oscillator that can be
> bypassed.
>
>
> --
> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
> * (310) 348-6043 | mine and do not necessarily *
> * Dana.Myers@West.Sun.Com | reflect those of my employer *
>
>

258. REQ: RDS encoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: g_walles@maxinet.medstroms.se
Message-ID: <4d40tm$no3@zorn.mnet.medstroms.se>
Source record: 108180

I'm looking for schematic diagrams to build a RDS(Radio Data System) encoder
to be used with an FM-transmitter.

Please e-mail any information to:
g_walles@maxinet.medstroms.se

Thanks !

SM0SUV - Gï¿½ran

259. Electonic flash unit problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: archive@flash.ATC.Olivetti.Com
Message-ID: <4d3541$nej@olivea.ATC.Olivetti.Com>
Source record: 108181
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

I have an electronic flash unit purchased in 1970. After being unused for many years, I find that now it does not function correctly. The lamp is powered by 250 Vcc and the flash is triggered by a pulse. I have checked the capacitor, which is in good condition. Has the lamp failed through again?? Does anybody have the answer?

260. Re: Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4d1vq5$o6p@newshost.lanl.gov>
Source record: 108182

I agree, I now create schematics and date of manufacture etc
and tape them inside the cover of the project or enclose them
inside somewhere.... that is mostly for my OWN benefit when
something dies inside later. It's wonderful not having to try
tracking down the original design, notes, etc, that may have
been lost or misplaced.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

261. Re: Kenwood on internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4d1v80$nd3@newshost.lanl.gov>
Source record: 108183

Or try their home web page:
http://www.kenwood.net/

--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

262. Xpert Needed:Zener Diodes --- Can you make what you dont have?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4d4ik0$po5@newsbf02.news.aol.com>
Source record: 108184

Question: Im looking at a reset circuit (suggested by Microchip, the manufacturer of the 16C74 microcontroller) which is build around a PNP transistor, three resistors, and a zener diode. Basically, the zener is set up with a series resistor to form a voltage reference of sorts. It feeds the transistor, which in turn can activate the reset pin on the processor.

The idea is this: If Vsuppy falls below the zener voltage + 0.7 volts (drop across the transistor, I presume), then the transistor will shut off and a pull-down resistor will yank the reset line to ground and reset the processor. So far so good.

My problem is this: The processor is spec'd to work down to 2.5 volts. If I add a safety margin and say the minimum before reset should be 3.o volts, 3 - 0.7 leaves me with a required zener voltage of 2.3 volts. I have several catalogs laying around here, and can't find any zeners less than 3 volts.

Can I synthesize the breakdown characteristics of a reverse biased 2.3 volt zener by replacing it with three *forward* biased switching diodes (like the 1n4148?). If the drop across each switching diode is, say 0.7 or 0.8 volts, then the total drop across the string should be 2.4 ----- very close to the zener voltage id like to see.

Will this work? What practical problems are there with this approach? How consisent is the forward drop of a particular line of switching diodes from batch to batch?

Please email any thoughts you might have, as my access to newsgroups is often less than reliable. Pete

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

263. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan11.172522.24768@ke4zv.atl.ga.us>
Source record: 108185

In article <4d1clt$c1q@mgate.arrl.org> Ed Hare <ehare@arrl.org> writes:
>All in all, I think QST offers a good balance of articles, ranging from
>some higher-tech articles, lots of articles for the middle ground and a
>substantial section of articles that are chosen because they would
>interest newcomers. (Now, for me, the DXCC and contest results hold
>little interest, but I just assume they are there for someone else and
>let it go at that.) I would join the howls of protest if all of our
>articles became the "buy the kit" articles, but really don't mind seeing
>the occasional gem that is like the auto-tuner-kit article.

I think it is a good advertisement. But ads don't belong as the
feature article in the *technical* section of the magazine. Perhaps
you could stretch a point and put it in with the other *product
reviews*, or give it coverage in the *New Products* section, but I
really think it belongs in the back with all the other *paid* advertising
by kit manufacturers.

Whether this is a great kit or not isn't the point, whether it is
a popular kit or not isn't the point, whether it is an economical
kit or not isn't the point. The point is that this isn't a technical
construction article because the primary information that makes it
an *auto* tuner is hidden from the reader. It's an ad, and QST used
member funds to *pay* to run this ad. That's not how it's supposed
to work. The company is supposed to pay *QST* for advertising space.

Firmware is virtual circuitry. Withholding information about the
firmware in a construction article is no different from withholding
schematic diagrams. Would you support paying for and publishing
a construction article that required the reader to buy the schematic
separately from the article author? (I might, that's essentially
what you're doing when you use any commercial IC. If you want the
internals, you have to buy the manufacturer's data book.) But more
to the point here, should you print a construction article where you
can't obtain the schematic, even from the author? I think not, that's
like the magic antenna tuner which was just a glob of expoxy hiding
a power resistor that QST correctly X-rayed and brought to public
attention a number of years ago. (Note: that's not a totally bogus
idea in certain special circumstances, but the way it was presented
bordered on fraud because there was no way to determine how it worked
thanks to the deliberately hidden internals.)

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary

534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

264. Re: Ham Gods and Spectrum Analyzers (Was interesti

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan11.173249.24884@ke4zv.atl.ga.us>
Source record: 108186

In article <8213108211903@lss.humnet.humberc.on.ca> hduff@humnet.humberc.on.ca (Hugh Duff) writes:
>
>> In article <4coc5i$kpq@newsbf02.news.aol.com> lrware@aol.com (Lrware) writes:
>>>Bravo! Do we have an ex spectrum analyzer designer among us?
>>
>> No, just a spectrum analyzer user, and sometimes repairman.
>>
>> Gary
>>
>> Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>
>
>Gary...Just wondering if you are getting your e-mail ?
>I sent you 2 messages within the past few weeks.
>Zack Lau tells me that you were messing with a 222 MHz TX strip design.
>I'm working on something similar...wondering if you care to share
>info ?

Hugh, my upstream smart host has been snarfed for nearly a month.
I've finally got news posting working through it again, but Email
is iffy. If you don't get a reply through the regular route, I've
setup another mail drop. Try ke4zv@radio.org.

I'm working on a transverter, but I don't think that applies to
what you're doing. It's just your typical DBMs and crystal
oscillator type of thing.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

265. Re:QST Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9600118213.AA821378459@mails.imed.com>
Source record: 108187

A thought occurred to me regarding the source code issue for this article. One of the problems is that it is so easy for a commercial outfit to simply lift the code as is and make profits from what was intended to be freely distributed. As a software professional, I would be really hot if something I wrote in order to give away for the benefit of the fraternity were used for profit by someone.

There is a way to protect the rights of the authors and still allow free distribution for amateur personal use. All the author has to do is to copyright the source code for the program. QST should have the policy that they will publish articles containing copyrighted software ONLY if the copyright holder grants a license to use for personal use only.

I would encourage authors to incorporate the "copyleft" of the Free Software Foundation. This is a more restrictive copyright. It says that if you modify the software for your personal use and make improvements, you must share those improvements freely with others. This is the spirit of amateur radio at its best, IMHO.

BTW, the article was a really neat idea. I may build one similar soon.

Ray Mack
WD5IFS
mack@mails.imed.com

266. Re: How make a (T/R Swich) ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4d1vi4$nd3@newshost.lanl.gov>
Source record: 108188

Ramsey Electronics sells a RF sensing switch (I think that's
what you're wanting) called the TR-1 for 15 bucks.
1-800-446-2295
There's not much to it, just a rectifier that takes a small
level of RF (thru say, a 5 pf capacitor) and biases a
transistor on to activate the associated relay coil.
You should be able to find details of such a circuit in the
ARRL handbook etc.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

267. E.J. Sterba article of July 1931 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: VE4KLM <slmusr03@MBnet.MB.CA>
Message-ID: <Pine.SUN.3.91.960111104500.26337C-100000@access.mbnet.mb.ca>
Source record: 108189

I want to know how I can get hold of an article published
by E.J. Sterba in the July 1931 Issue of the Proceedings of the
Institute of Radio Engineers (starting page 1184).

The article was a detailed description of the Sterba array.

Can anyone help me ?

Maiko Langelaar
VE4KLM, Winnipeg

| SLM Software Inc. |
| slmusr03@SLMSoft.CA |
---

268. R-1051 Frequency Standard Pinout, Anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-110196140149@160.205.101.24>
Source record: 108190

A while back I picked up a surplus frequency standard unit from an R-1051 receiver for a little oscillator project. Now that I'm getting serious about using it, I've lost the pinout for it (of course, if I had a complete R-1051, I'd be able to figure it out myself...). Anyway, if you can followup w/ info on the A1 thru A6 coax pins & the seven single conductor pins on the P1 connector, I'd be much obliged.

TIA,

TGB

\\ The opinions expressed herein are my own. //

269. Any CW mods on Collins 32-S1 xmtr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: Cal Eustaquio <ceustaqu@farad.elee.calpoly.edu>
Message-ID: <Pine.ULT.3.91.960111123711.2764B-100000@farad.elee.calpoly.edu>
Source record: 108191

Hello all:

With the scarcity of the 32-S3 series transmitters, I was thinking about purchasing a 32-S1 transmitter instead. However, I heard about complaints regarding the CW operation of the rig. From what I gather, CW is currently generated by the use of audio tones sent to the sideband generator and out the rig as opposed to using actual carrier for true CW. If this is the case, I am thinking about designing an oscillator/keyer scheme to circumvent this circuit, but before I do, has anyone done such a modification or is there any information to mod the S1 to S3 specs?
73's. Cal.

270. Re: Design for a 1W PA for 1296MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30F57281.7A59@arrl.org>
Source record: 108192

Danie Brynard wrote:

> I am looking for a design or references to a design for a PA of
> about 1W for my 1296MHz transverter.

Tough power level. Cheap plastic case devices only seem to do
500 to 600 mW output. Most people seem to settle for that and
run this into a surplus GaAs FET or expensive hybrid module to
get 4 to 10 watts output. The 1995 Microwave Update Proceedings
(ARRL #5366) has a +28 dBm design by AA5C using the Siemans CLY-5.

Many GaAs FETs will work just fine lower in frequency, but
the impedance matched ones never seem to tune up the same
way. No problem for the "real experimenter," make sufficiently
long 50 ohm input/output lines and tune till it works!

Of course, the M67715 hybrid will easily put out a watt linear,
but I don't think this is what you want.

Zack KH6CP/1

271. Re: Making PC boards from laser printer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: peralex@aztec.co.za
Message-ID: <4d2idc$1h9@aztec.co.za>
Source record: 108193

ko2e@Pko2e.capital.net wrote:

>I jumped in the group late and missed the original posting. Whats the story
>about laser print / circuit boards. I have used Tek Film with fair results.
>Please let me know... Ernie..

Use DejaNews, and search for the subject line.

Tom

272. Re: Re:QST Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: faunt@netcom4.netcom.com
Message-ID: <FAUNT.96Jan11091559@netcom4.netcom.com>
Source record: 108270
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Does the copyleft protect the authors from someone else using the code in a commercial product, or just specify that all changes, as well as the original source must be made available?

The article has got enough information to be useful as it is, both as a kit and as food for thought, and I don't fault the ARRL for publishing it, but it's frustrating that to do anything with that, you'd have to reconstruct the code, instead of being able to build on what's gone before.

It looks to me as if the MC68HC811E2 is compatible with the -A1 part used in the article, and has 4 times as much EEPROM for the code. This would give lots of room for additional functions. Also, the PD0 and PD1 asynchronous serial port pins are just connected to each other, and with the addition of an RS-232 converter could perhaps be used to connect to a computer, or other remote controller.

I also wonder why, apparently, the unit stops tuning when it gets to a specified level, and doesn't actually continue to find best match.

In addition, there seem to be four more A/D ports available, and I wonder if a phase detector or other sensor could be added to make for an even more efficient match hunting algorithm.

My preliminary checking indicates that developement hardware and software for these microprocessors are readily available and cheap. Check out "Nuts and Volts" or the 68HC11 microcontroller FAQ.

Also, if you just doubled the values of the capacitors and/or the inductors, how much would you trade optimization of match for extended capability on 160M (how much extended capability)? This version doesn't require the code, BTW, just the kit, a couple of capacitors, and some wire. If you were willing to sacrifice some of the indicators (use an external SWR meter, say), or use the async port for control and status, you could, I think, extend the range on 160M, without sacrificing optimization, but this again requires modifying the code.

I rather wonder if I'd have paid as much attention to the article if there hadn't been so much controversy about it.
73, doug

From: mack@mails.imed.COM
Newsgroups: rec.radio.amateur.homebrew
Date: 11 Jan 96 14:29:13 GMT
I would encourage authors to incorporate the "copyleft" of the Free

Software Foundation. This is a more restrictive copyright. It says that if you modify the software for your personal use and make improvements, you must share those improvements freely with others. This is the spirit of amateur radio at its best, IMHO.

BTW, the article was a really neat idea. I may build one similar soon.

Ray Mack
WD5IFS
mack@mails.imed.com

273. Re: NiCAD Charger Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: "Paul D. Seyler" <Paul_Seyler_at_AOS500@admin.tc.faa.gov>
Message-ID: <30F57812.58DA@admin.tc.faa.gov>
Source record: 108271

Tom Bruhns wrote:
> There are several manufacturers of ICs that do most of the job. For
> example, if you just follow the circuits in the Maxim data sheet for
> the MAX712/713, you can build a "universal" charger that you switch
> the number of cells on, or a "custom" charger for a fixed battery ...
> Cheers,
> Tom
> tomb@lsid.hp.com

Thanks Tom, this is exactly what I was looking for. I have a couple MAX713's on the way. I looked through MAXIM's 1995 book, but I did'nt realize that thay dont reprint all their parts in the current data book. The MAX713 is in the 1994 data book. What other manufactures make this type of IC?

274. DC/AC (Inverter) Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: Dave_Covert@msn.com
Message-ID: <00001fee+0000123e@msn.com>
Source record: 108272

I am looking for schematics for a high amp DC/AC converter to use in
the field.
It should take 12VDC in and produce 120VAC 60Hz out at 1600 watts.

I realize the best way to do this is to have a design with a single
'signal' card
and multiple 'driver' cards. Each 'driver' card could procude 100W
and take it's
60Hz from a common source.

Anybody have an expandable design like this?

Dave Covert, KB5GOG

275. Re: How make a (T/R Swich) ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-11 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1101961227090001@d189.nb.interaccess.com>
Source record: 108273

In article <4cvgot$8p6@news.worldlinx.com>, evincent@mediom.qc.ca (Eric Vincent) wrote:

> I have a TH-78A, I want to drive a T/R Swich with my radio and I don't
> have any idea to make that.

Eric -

Forgive me, but I'm not up on model numbers. If a TH-78A is a HF transmitter or receiver, the ARRL Handbook has had plans for an interesting T/R switch in it for the last several years.

Dave Moorman, K9SW

276. Re: Amidon?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: nangwa@aol.com
Message-ID: <4d6htl$ocn@newsbf02.news.aol.com>
Source record: 108124

Try 310-763-5770. Like everything else in
California, area codes and numbers seem to
shift with the seasons.

Tom Donaly

277. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: "Dana H. Myers" <Dana.Myers@West.Sun.Com>
Message-ID: <4d6551$p59@abyss.West.Sun.COM>
Source record: 108125

n7ws@azstarnet.com (Wes Stewart) wrote:

[previous messages describing capacitor/emitter follower combination
deleted]

>Because our application specified certain immunity to noise on the supply
>voltage to this device, the hybrid manufacturer used an emitter follower as
>described above to pick up a few dB of noise rejection. Because of space
>limitations, he had room for only one filter capacitor (.33 uF tantalum) so
>obviously, he used it on the emitter follower base. However, Motorola
>specifies a minimum of .33 uF on the input of the regulator chip for
>stability. Conversations with a Motorola application engineer confirmed this.

I assume the emitter follower precedes the 7812? That's interesting;
I'd probably put it after the 7812, in an effort to reduce the 7812
noise voltage. That doesn't solve the problem you found, though.

>By wire-bonding the cap directly to the regulator input, I was able to
>stabilize the regulator, confirming that this was the problem. Lesson
>learned:
>
>The capacitance multiplier idea may work sometimes, but without *very* careful
>analysis, you might get into real trouble.

Yeah; like, pay attention to the manufacturer's specs. The 7812 input
"port" needs to have .33uF connected; I'm sure the capacitance seen
looking back into the emitter follower is much less than .33uF. Of
course, depending on the base resistance, the capacitance seen looking
into the emitter is much less than .33uF, also. Which makes me naively
suggest that "capacitance multiplier" is a misnomer.

278. Re: NiCAD Charger Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: eighmy@scott.net
Message-ID: <4d6r7t$sod@news.scott.net>
Source record: 108126

> Thanks Tom, this is exactly what I was looking for. I have a couple
> MAX713's on the way. I looked through MAXIM's 1995 book, but I did'nt
> realize that thay dont reprint all their parts in the current data book.
> The MAX713 is in the 1994 data book. What other manufactures make this
> type of IC?
>
>>>>

I used a ICS1700 charger chip. I think it is very similar to the Maxim chip. It uses a "Reflex charge" (90% +
charge current, 5% -charge current, 5% measurementcycle) that minimizes gas build-up during charging.

Motorola, Benchmarque and Sanyo also have a similar chips.

73,
Gene
wd4mps
Birmingham, AL

279. Re:RF compression

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <821514490.27821@pinetree.microserve.com>
Source record: 108127

mack@mails.imed.COM wrote:

>There has been a thread here for a few days regarding SSB processing,
>vs DSB processing vs split band baseband processing.
>
>It started me thinking about some products the Philips and others make
>called compandors (compression/expander like modem is
>modulator/demodulator). Does anyone know if these products do the
>kind of compression that we seek to do in the amateur service with RF
>kinds of things?

The problem with companders and numerous other schemes is that they
require "inverse" processing at the receiver. In other words, they're
only useful if you're communicating with a station similarly equipped.

73,
Jack WB3U

280. RS12/13

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.7539.546@acenet.com>
Source record: 108128

Does anyone have any idea what has happened to the RS12 satellite?
I've listened for it the past few days & haven't heard anything
on 29.407 MHz.
I did hear the beacon momentarily and a few seconds from a weak signal
in California but that was all I have heard lately!

 SLMR 2.1a

281. Low noise pre-amp for 900 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-1101962025440001@amber1.ultranet.com>
Source record: 108194

Can anyone suggest either a commercial source or plans and component sources for the above?

Thanks in advance for all replies.

Jon

282. Kit for E-prom burner?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: morganp@fn1.freenet.edmonton.ab.ca
Message-ID: <4d4obv$ai5@news.sas.ab.ca>
Source record: 108195

Is there a kit out there for an E-prom burner? Thanx in advance.

--
73 & ttyl Morgan Patterson
\\/// Internet: morganp@freenet.edmonton.ab.ca
(o o) Ham Radio: VE6MRP
(_) "What, back up my hard drive! I can't find the reverse switch"
----oOO-----OOo---

283. Re: Re: QST Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan12.182122.207@ke4zv.atl.ga.us>
Source record: 108196
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <FAUNT.96Jan11091559@netcom4.netcom.com> faunt@netcom4.netcom.com (Doug Faunt N6TQS +1-510-655-8604) writes:
>Does the copyleft protect the authors from someone else using the code
>in a commercial product, or just specify that all changes, as well as
>the original source must be made available?

The latter. It also prohibits charging for the code, though a media and distribution charge is allowed. Thus someone can't take your program and go sell it, but they can charge a media and distribution fee to *give* it away.

Copyleft is a powerful idea, born of concepts of academic freedom. It encourages development by allowing access to the work of others so you don't have to constantly be reinventing the wheel, but can stand on the shoulders of giants while making your contribution. It also, due to the mandatory source availability, is a powerful teaching tool. It allows anyone to see how things work, and how a particular problem might be addressed by a practitioner in the field.

This latter is particularly important to an organization like the ARRL which maintains its tax exempt status by claiming to be an educational organization. If they wish to teach us about *auto* tuners, then they'd better show us how the *auto* part works. Trade secrets have no place in a tax exempt educational organization's lead publication.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

284. Re: Motorola Handie-Talkie freqs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: doneal@tcac.com
Message-ID: <4d6nlh$3pe@jupiter.tcac.com>
Source record: 108197
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <mfogartyDKo36K.KGH@netcom.com>, mfogarty@netcom.com says...
>
>A friend has a pair of Motorola HT600's. They're two channel,
commercial
>grade HTs. Trouble is, they don't seem to say on which frequencies
they
>xmt and rcv. I'd like to be able to tune in with my Standard HT.
Does
>anyone have this information?
>
>Thanks,
>mfogarty
That particular radio has several different models. The first three digits of the model number will tell a person which band it is on. To find the frequencies in the radio, you should look under the belt clip or remove the BACK cover and look underneath. If this does not produce a fequency list, you will need to take it to a radio shop and have the the prom read. You should know your own frequency and PL or DPL codes when you go. They can re-program the unit (probably for the same charge) at the same time (if the units are compatible). The shop I used to work at charged $35 to do this. You will probably have to go to a MOTOROLA shop to have this done.

285. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4d5d2l$90g@newsbf02.news.aol.com>
Source record: 108198

In article <4d1clt$c1q@mgate.arrl.org>, Ed Hare <ehare@arrl.org> writes:

>All in all, I think QST offers a good balance of articles, ranging from
>some higher-tech articles, lots of articles for the middle ground and a
>substantial section of articles that are chosen because they would
>interest newcomers. (Now, for me, the DXCC and contest results hold
>little interest, but I just assume they are there for someone else and
>let it go at that.) I would join the howls of protest if all of our
>articles became the "buy the kit" articles, but really don't mind seeing
>the occasional gem that is like the auto-tuner-kit article.
>
>73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor
>
>

Nice response Ed! That's a tough job, to satisfy everyone.

But I still have a question. Can anyone post or E-mail a flow chart of the software? I am trying to find out how the author handled that interesting part of the problem. Does anyone that built the tuner understand how the software works enought to describe the basic idea behind it?
73 Tom

286. Re: Xpert Needed:Zener Diodes --- Can you make what you dont have?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: mark@reson.com
Message-ID: <4d4pdu$bn@daffy.sb.west.net>
Source record: 108199

pfzouave@aol.com (PFZouave) wrote:

>Question: Im looking at a reset circuit (suggested by Microchip, the
>manufacturer of the 16C74 microcontroller) which is build around a PNP
>transistor, three resistors, and a zener diode. Basically, the zener is
>set up with a series resistor to form a voltage reference of sorts. It
>feeds the transistor, which in turn can activate the reset pin on the
>processor. [stuff deleted]

Your best bet for a reliable reset circuit is something like the Maxim MAX704T/S/R or the reset chip. The T/S/R suffix is the reset voltage (3.06, 2.91, 2.61 respectively). Don't use the plain MAX704, it resets at 4.65 volts. The one you describe has problems with temp drift and good reliable operation when conditions become marginal or you have a funky power supply during turn-on. Maxim and others have a whole bunch of microprocessor reset circuits which work better than any of the popular discrete designs. I think the cost is about $5.00 each.

-
Mark Chun | mark@reson.com | Santa Barbara, CA

287. Re: Amidon?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: jmf@visi.com
Message-ID: <4d4gqd$bpk@news.visi.com>
Source record: 108200

fflynn@together.net (Francis Flynn) wrote:

>Does anyone have a current address and phone number for Amidon Associates?

>The phone number I have is 213 763 5770, it's disconnnected. Directory
>assistance was no help either.

>If they are gone, does anyone have a good source of toroids?

I had some correspondence with ARRL's Technical Information Service
last August, and they suggested the following as a source for toroids:

Ocean State Electronics
6 Industrial Drive
Westerny, RI 02891

(401) 596-3080

Hope this helps.

-- Joe Fishbein
jmf@visi.com

288. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4d5d0k$8vm@newsbf02.news.aol.com>
Source record: 108201

Hi Gary,
You wrote:
>Typically a MOV will be in hard conduction at 150% to 200% of its
>rated working voltage, IE for a V130 that would be 195 to 260 volts.
>It'll reach hard conduction a few nanoseconds after a transient reaches
>that value, and remain so until the transient decays (up to the peak>
>joule rating of the device).

Could you please give me an example of what the "hard conduction"
resistance is?

What is the "on" resistance at say...300 volts peak for a MOV that will
safely opeate on a normal 120 volt power line (say 180 volt peaks). Do you
have the exact specs?

The last time I looked at the data from manufacturers of MOV's, they were
about worthless! Transformers would have been into saturation way before
the MOV conducted, and the transformer's saturated impedance would have
been several times lower than even a very large MOV's "on" resistance.
Maybe that has changed in the past few years.

Do you have data that indicates a MOV that can protect a transformer
operated supply? I understand MOV's help on line operated devices without
a transformer (they are better than nothing), but what about if a
transforer is used?

73 Tom

Now assuming the PS being protected has
a dV/dt longer than a few nanoseconds, the transient will be safely
clamped before damaging voltage can pass through.

Remember a MOV isn't intended to be an overvoltage protector,
it's a *transient* surge protector. It won't protect a PS if
the line voltage rises to 140 volts for a sustained time, but
it will keep transient peaks below values that could punch
a junction or an electrolytic cap in the supply. (It is assumed
that a good PS design will use parts rated for peaks at least
150% to 200% of their planned sustained voltage.)

Gary
--

289. Re: BFO Project Questions ?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.821464052.18733.jwicklun@mycroftxxx.halcyon.com>
Source record: 108202

In article <4d1rnv$81i@news1.netzone.com>, <bdolan@netwest.com>
---snip
> to get me to do. How would I use a receiver to do this? What
is a GDO?
> What is "zero-beats"?
>
> Answers to the above questions, as well as any general advice
would be
> greatly appreciated.
>
> Thanks in advance for helping a new ham,
>
> Brian
> KC7JRT
>
Well, Brian, you may have a fun time of it. First, question...
Yes the IF transformers will look like little metal cubes with a
hole in them and a gray or black ferrite core inside that can be
adjusted. The core is in the middle of a coil of wire and
adjusts the inductance of it to tune the transformer. Some
cores have a screwdriver slot and others have a hex shaped hole.
I'm not sure why there would be seven if its just an AM only
radio. I would only expect 4 or 5. They are not all identical,
and are color coded for function, and or frequency. If the
radio is an AM/FM radio then some of the transformers you see
are probably for 10.7MHz instead of 455KHz. (usually FM
receivers use 10.7MHz for IF, and AM uses 455KHz).

For your case, I would expect that any of the 455KHz
transformers should work in your application. The difference
between the various 455KHz transformers is in the turns ratio
and taps to couple into the next stage. I expect that the
circuit that you are building only uses the primary winding on
the transformer; so you may have to figure out which pins to
use. You could use an ohm meter to determine which pins are
part of the same coil of wire.

As for the "beat". If you build up the circuit and connect it
to a radio and then tune in an AM radio station; then when you
turn on the BFO circuit you should hear a loud squeal (at least
you will if the bfo is near the 455KHz if of your working
radio). Then as you tune the bfo by turning the adjustment
screw the squeal will move up or down in frequency. The squeal
is the "beat" frequency - the difference in frequency between
the bfo oscillator frequency and the radio's IF frequency. You

want to adjust the bfo frequency until the beat frequency approaches zero (the squeal gets lower and lower until it disappears - if you keep tuning then it starts getting higher and higher again).

The GDO is a Grid Dip Oscillator, which is a general purpose test instrument that can be used to check the resonant frequency of coils and circuits. Actually they aren't near as common as they were 20 years ago.

Hope that helps...you will probably get some more hints from others....Jay (KI7RH)

290. Re: 900 MHz Security

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.821462632.14096.jwicklun@mycroftxxx.halcyon.com>
Source record: 108203

In article <4d3oim$tse@n0jcf.com>, <chrise@n0jcf.com> writes:

> ---snip
> However-- my Tropez 900DL (of which the ATT9100 is a clone)
> transmits a fairly powerful "image" in the clear on roughly
> 435 MHz.
> ----snip
> Chris Elmquist, N0JCF
> chrise@n0jcf.com
> n0jcf@amsat.org
>
Thanks for the information Chris. I have the Tropez 900DX and I
suspect that it has the same problem. I hadn'd pursued it, but
had noticed that it interfered with my handheld when they were
in the same room. I'll have to check closer, I never tried to
listen while the phone was in use.

Jay

291. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <4d3gbc$4lp$1@brisbane.DIALix.oz.au>
Source record: 108204

I don't see how you can avoid the problem of the lower SB mixing
with the upper SB of the 1st harmonic. Add em together and it looks
like a clipped audio signal - the AF harmonics mix. The only way round this
is to use side band (single) and/or very soft clipping.

If one clips SSB the harmonics reflect away from the base band rapidly
and the mixing products are removed by the very broad 2nd SSB filter
after the clipper.

No probs.

Murray Kelly vk4aok.

292. HR2510

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: Dan Davis <dan110@ix.netcom.com>
Message-ID: <30F72062.7D2B@ix.netcom.com>
Source record: 108205

need info about power mod and info on varible drive.send in to
dan110@ix.netcom.com

Thanks Dan Davis KD6UWC

293. AW: Re: Baycom modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <30F6CDE1@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 108206

hello folks,

since some time I follow the discussion about baycom e.g. As I am a little competent about baycom let me drop a few words:

Regarding hardware:
Do you know about the existing baycom plug-in-card? It is call USCC (User-SCC, SCC stands for the Z8530 beeing used). The card has two SCCs, so four ports. One port is a AM7910 modem for HF/VHF, one a TCM3105 for VHF, a DF9IC style 9600bd FSK modem and a straight forward port. It completly adapts to baycom user software, to the baycom node and the baycom mailbox. There is also a RMNC/Flexnet following software called PC/Flexnet as baycom node will no longer be serviced. There is also a card available which has eight ports (four SCCs) but without modems.

Regarding software:
Baycom L2.EXE offers possibilities to transmit the AX.25 over many kinds of interfaces: Best known is the RS232 modem with the TCM3105. But there are many others: You can use the RS232 also as interface to a kiss server, e.g. TNC2. As mentioned above the USCC card. There is also a IPX interface which runs over a installed network, worth which transmission type (e.g. ARCNET or Ethernet, you just need IPX) I have a baycom mailbox running which provides also network services using Novell Netware Lite, as I use a L2.EXE which also
offers IPX support I can connect the mailbox via the network, too.

PC/Flexnet, which will soon replace baycom's L2.EXE, also offers the support for IPX as far as I currently know.

This is for your information. If you need more, please be shure to send a private copy for mee, too, as i do not always carefully watch the tcpip and packet radio groups.

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
DL4MEA@AMSAT.ORG (Internet)
HTTP://WWW.SCN.DE/~KOELLNER (WWW)

| Von: mwestfal
| An: tcp-group
| Betreff: Re: Baycom modem
| Datum: Donnerstag, 11. Januar 1996 15:13
|
| In a former treatise, Dennis Rosenauer spake thusly:
|
| -> Perhaps the Baycom could be subject to the same fate as a 3C501

```
Ethernet
| -> card. That is smashed with a large hammer. :-)
|
|
| "Could" be...? You mean SHOULD be....
|
|
|
--------------------------------------------------------------------------
---
| -
| 73 de Mike, ax.25net: N6KUY@W6JBT.#SOCA.CA.USA.NOAM
| amprnet: n6kuy@n6kuy.ampr.org [44.18.0.49]
| internet: mwestfal@.csci.csusb.edu
| web: http://orion.csci.csusb.edu:8080
| Linux: the Gates of Hell shall not prevail.
| GCS/M { -d+ p+ c++ l u++ e+(*) m++(-) s/+ !n-(---) h-- !f g+ w+ t++ r-(--)
y+
| }
|
--------------------------------------------------------------------------
---
| -
|
```

294. Re:RF compression

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9600128214.AA821482740@mails.imed.com>
Source record: 108207

There has been a thread here for a few days regarding SSB processing, vs DSB processing vs split band baseband processing.

It started me thinking about some products the Philips and others make called compandors (compression/expander like modem is modulator/demodulator). Does anyone know if these products do the kind of compression that we seek to do in the amateur service with RF kinds of things? I have never seen an amateur use of these devices that I can remember. The only thing close was the section in the 1985 Handbook on amplitude-compandored SSB.

Ray Mack
WD5IFS
mack@mails.imed.com

295. re:power inverters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9600128214.AA821481536@mails.imed.com>
Source record: 108208

Dave Covert was looking for schematics, etc. for a 12 VDC to 120VAC @1600 Watts inverter.

Dave:

I suggest that instead of building one, you should just buy one from either Damark or Crutchfield. I don't have either catalog at work today. Various manufacturers make models in power levels from 140 W up to 3000 W continuous duty. The 140W model is about $40 from Damark and the 1500W version is in the $400 to $500 range.

You could build your own, of course, but it would probably cost as much as the ones you buy. I know I couldn't build a 140W one for $40.

Call Damark @ (800)729-9000. They carry 4 models of inverters made by Recoton. They have a 140 watt unit ($40), a 300 watt unit ($80), a 600watt/1000 watt peak unit ($200), and a 1500 watt continuous/3000 watt peak unit ($450). You can drive a LOT of stuff with 3000 watts of peak power. You need VERY big cable to attach from the battery to the inverter. 3000 watts @ 12v is 265 Amps!

It is interesting to note that the reason these have gotten so inexpensive is that they are the principle ingredient in the megawatt car stereo amplifiers! That's the only way they can get the power from a 12V car battery.

Ray Mack
WD5IFS
mack@mails.imed.com

296. Tubes, anyone?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: "John T. Anderson" <anderson@elnet.com>
Message-ID: <4d6adt$sfn@fnnews.fnal.gov>
Source record: 108209

I have recently acquired a box of tubes, all in cardboard boxes, many new, some used, as part of a bulk buy of other equipment. If anyone is looking to buy a tube, please send me an E-mail with the tube number and I'll check it against my list. If I have it, it's yours for $4.00 a tube plus shipping charges.

297. Re: Ham-Homebrew Digest V96 #1

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: EFBRYA@acxiom.COM
Message-ID: <0f666890@acxiom.com>
Source record: 108210

>Ed Hare <ehare@arrl.org>:
>
>I have been somewhat surprised to see some of the turns this thread
>has
>taken. I have seen a few posts that seem to imply that because QST
>*occasionally* has run an article that doesn't offer source code,
>that
>*none* of our articles are complete. In reality, over the past three
>years, QST has, if memory serves, offered two articles that didn't
>include source code. FWIW, those two have proved to be among the
>most
>popular construction projects, based on the semi-formal counts we
>always
>get from the authors. I think that tells me that we have chosen the
>exceptions to our informal "rules" wisely. (We *do* encourage all
>authors
>to make source code available, and will continue to do so. We have
>even
>changed a few minds along the way.)

Not to take a cheap shot but couldn't the high number of responses be because the source was not printed? The authors have to be contacted to build the project. This would seem to be an indication of the number who DO want to program their own chips but couldn't because the source was not there!

Eric Bryan
KC5EBY

298. re:copyleft

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9600128214.AA821481831@mails.imed.com>
Source record: 108211

Doug Faunt correctly caught my error in suggesting using "copyleft".
If I remember correctly the "copyleft" of the FSF allows for
commercial use, so the authors would have to morph it into a limited
use license of their copyright. This would allow unlimited personal
use, no commercial use, and require personal users to give back to the
group. Do y'all think this would work?

Ray Mack
WD5IFS
mack@mails.imed.com

299. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan12.180329.81@ke4zv.atl.ga.us>
Source record: 108212

In article <n7ws.26.02237B15@azstarnet.com> n7ws@azstarnet.com (Wes Stewart) writes:
>
>The capacitance multiplier idea may work sometimes, but without *very* careful
>analysis, you might get into real trouble.

The electronic capacitance amplifier always works, but it doesn't excuse one from good electronic practice. It is not a substitute for RF bypassing. In fact, due to the finite gain-bandwidth product of the emitter follower stage, it is mainly a method to reduce *low frequency* ripple in a DC voltage. It does that quite well. Good practice tells us to use *both* a large capacitance and a small value capacitance to bypass 3 terminal regulators. The former for low frequency bypassing, and the latter for high frequency bypassing. The electronically amplified capacitor can allow us to use a physically smaller capacitor for the low frequency bypassing, but it doesn't free us from the need to also supply a high frequency bypass for stages prone to parasitic oscillation, like the above mentioned 3 terminal regulator.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

300. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960112164619.18167D-100000@biggulp.callamer.com>
Source record: 108213

Yes, I would also like to see a flow diagram or something similar..W6HDO

On 12 Jan 1996, W8JI Tom wrote:

> In article <4d1clt$c1q@mgate.arrl.org>, Ed Hare <ehare@arrl.org> writes:
>
> >All in all, I think QST offers a good balance of articles, ranging from
> >some higher-tech articles, lots of articles for the middle ground and a
> >substantial section of articles that are chosen because they would
> >interest newcomers. (Now, for me, the DXCC and contest results hold
> >little interest, but I just assume they are there for someone else and
> >let it go at that.) I would join the howls of protest if all of our
> >articles became the "buy the kit" articles, but really don't mind seeing
> >the occasional gem that is like the auto-tuner-kit article.
> >
> >73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor
> >
> >
>
> Nice response Ed! That's a tough job, to satisfy everyone.
>
> But I still have a question. Can anyone post or E-mail a flow chart of the
> software? I am trying to find out how the author handled that interesting
> part of the problem. Does anyone that built the tuner understand how the
> software works enought to describe the basic idea behind it?
> 73 Tom
>
>
>
>

301. Re: DC/AC (Inverter) Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan12.192336.609@ke4zv.atl.ga.us>
Source record: 108214

In article <00001fee+0000123e@msn.com> Dave_Covert@msn.com (David Covert) writes:
>
>I am looking for schematics for a high amp DC/AC converter to use in
>the field.
>It should take 12VDC in and produce 120VAC 60Hz out at 1600 watts.

The device you are looking for is commonly called an *inverter*, and
is the major component of a *UPS*. Commercial versions are available
from a few watts up to the 100s of kilowatts.

However, 1600 watts from a 12 VDC source means switching over 130 amps.
Typically, inverters in the kilowatt range and larger are run from a
higher DC voltage, usually obtained by a series string of batteries.
An inverter for 1600 watts would typically operate off of 82 VDC.

>I realize the best way to do this is to have a design with a single
>'signal' card
>and multiple 'driver' cards. Each 'driver' card could procude 100W
>and take it's
>60Hz from a common source.

Well, not usually. The input DC is chopped, usually in the range
of 40 kHz to 100 kHz, stepped up in voltage by a toroidal transformer
to somewhere in the 200 to 400 volt range, rectified, and applied to
a Pulse Width Modulator (PWM) which feeds an integrating filter to
produce a stepped sinewave at 60 Hz.

This might be done in a modular fashion, but it usually isn't since
semiconductors capable of switching 1600 watts are readily available.
Commercial 1600 watt inverters go for around $100 to $200.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

302. Re: Amidon?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <821514092.27821@pinetree.microserve.com>
Source record: 108215

fflynn@together.net (Francis Flynn) wrote:

>Does anyone have a current address and phone number for Amidon Associates?

The current address and phone for Amidon are:

P.O. Box 25867
Santa Ana, CA 92799
Tel: (714) 850-4660
Fax: (714) 850-1163

This information is from their current flyer and I have ordered parts
direct within the last 30 days.

73,
Jack WB3U

303. Re: Electonic flash unit problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: rice@ttd.teradyne.com
Message-ID: <1996Jan12.171333.1@ttd.teradyne.com>
Source record: 108216
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <4d3541$nej@olivea.ATC.Olivetti.Com>, archive@flash.ATC.Olivetti.Com (DCG Mktg Docmnt (Ivrea)) writes:
>
> I have an electronic flash unit purchased in 1970. After being unused for
> many years, I find that now it does not function correctly. The lamp is
> powered by 250 Vcc and the flash is triggered by a pulse. I have
> checked the capacitor, which is in good condition. Has the lamp failed
> through again?? Does anybody have the answer?

How did you 'check the cap' ? Were you able to determine that it would
hold a charge, or did you just check that it wasn't shorted ?

The most likely failure is that the cap is indeed open and will not take
a charge. That's always been the problem in the 3 or 4 that I've had die
on me over the years.

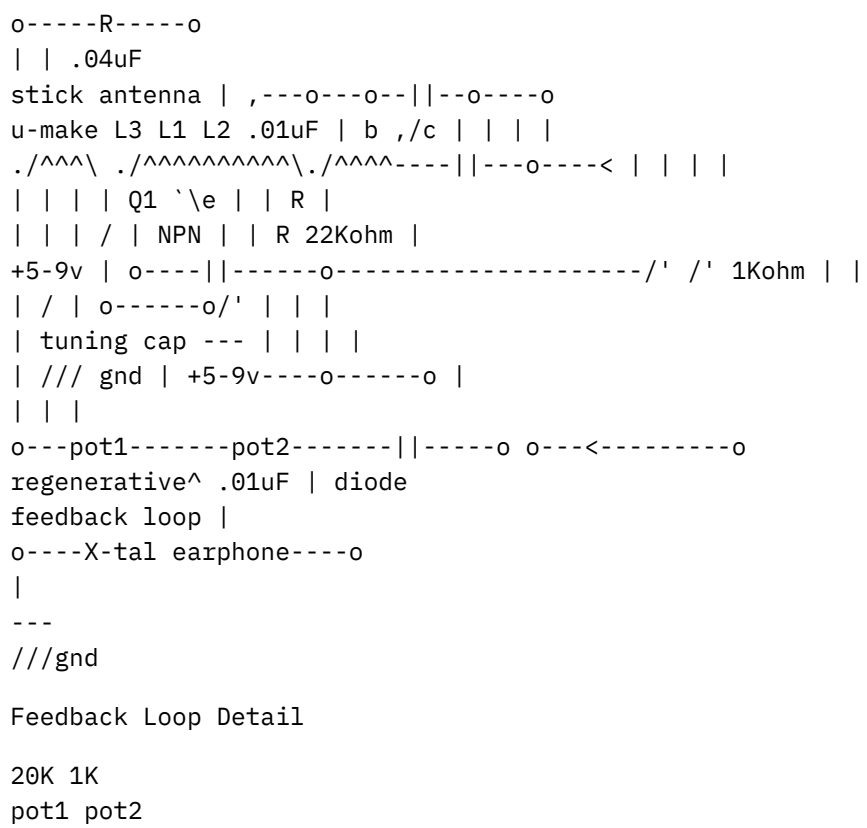
John Rice - K9IJ | "I speak for myself, not my employer".
k9ij@avsoft.com | Miracles, Magic and Sleight-of-hand done here.
k9ij@amsat.org | Licensed since 1959
(708)-438-5065 - (bbs) | Ex: K8YZR, KH6GHC, WB9CSP, W9MMB, WA1TXV

304. Re: recommend good kids'

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: jim.horner@minfox.com
Message-ID: <9601121820288902@minfox.com>
Source record: 108217

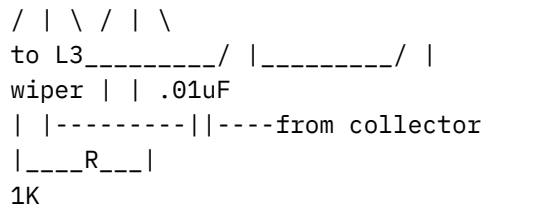
```
TV>When my boys were in scouts, the scout leader asked me about crystal sets. I
TV>fered a
TV>slightly different suggestion for a project. W
TV>e bought RadioShack "Flavor-Radio's for about 5$ apiece, disassembled them i
TV> semi-kit form,
TV>ie: case, speaker, battery, and circuit board, and set up an oscillator, vol
TV>ter and
TV>soldering station. We helped helped each of the boys with re-assembly, afte
TV>etting them test
TV>the battery and the speaker and earphone. Over about 3 meetings each boy lea
TV>d something
TV>about electronics, and had a real working radio that he had built and could
TV>w off without a
TV>100' outdoor antenna.
```

along this same line...
Here is a simple AM broadcast band, regenerative receiver. It
uses the stick antenna and the tuning capacitor from a junked AM
receiver.



Feedback Loop Detail

20K 1K
pot1 pot2



1. o ' ` . represent continuity, not components.

2. L1 and L2 are part of the stick antenna. There are 4 leads on the stick. The bigger coil goes across the tuning cap.

3. L3 is made by wrapping a strip of light cardboard around the ferrite stick and taping it. The idea is to have a short tube that you can slide back and forth a little bit on the ferrite stick. L3 is 4-7 turns of hookup wire wound on this tube, and taped in place. It makes a difference which way current flows here. If you aren't getting oscillations, you can slip this cardboard/coil/tape assembly off the stick, flip it end for end, and slip it back on.

4. The circuit should be built over a sheet of conductive material connected to gnd. This `ground plane' helps the stability/performance quite a bit. I'm not sure why, but it does.

Operation. The feedback control is very sensitive. Turn the coarse control (20K pot) very slowly and you should hear noise in the X-tal earphone. The noise only occurs at the point where the circuit starts to break into oscillation. You must be just below, (but very close to), this point to hear AM broadcasts. Feedback can also be controled by sliding L3 a little bit along the ferrite stick. When you find the point where oscillation starts back off a tiny tiny bit on the 20K, and sneak up on it with the fine control (1K pot). You have to operate the fine control pot with one hand, and the tuning cap with the other, to tune across the band. Lower frequencies need less feedback.

If you can't get a noise in the earphone:
1. L3 is backwards. Turn it around
2. There is too much feedback even with pot 1 adjusted for max R. Remove turns from L3
I'm a beginning DIY electronics student, and not a ham, but I had a lot of fun and learned a lot from this circuit when I started trying to teach myself this stuff at almost 40 :).
...jim

---
* OLX 2.1 TD * Binary tagline supplied on request. Some Assembly req'd.

305. Re: Xpert Needed:Zener Diodes --- Can you make what you dont have?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <821515224.27821@pinetree.microserve.com>
Source record: 108218

pfzouave@aol.com (PFZouave) wrote:

>Can I synthesize the breakdown characteristics of a reverse biased 2.3
>volt zener by replacing it with three *forward* biased switching diodes
>(like the 1n4148?).

Yes, you can. Use 0.7 volts as the approximate drop across each diode
for purposes of calculating the total drop.

>How consisent is the forward drop of a particular line of switching
>diodes from batch to batch?

I've found the forward drop within a given family of diodes to be very
consistent. For the use you've described, I think any variation will
be insignificant.

Incidentally, I used this technique once in a high current homebrew
power supply. I only had a handful of fixed 12V regulators and
several pass transistors to work with. Basically, I used the
forward-biased diodes to "float" the ground pin of the regulator, in
order to increase its output voltage. I used three 1A power supply
diodes diodes, and by hand selecting the regulator IC's, I was able to
find one that provided exactly 14.5V output. When I used this to drive
the parallel pass transistors, their 0.7 base-emitter drop resulted in
exactly 13.8V. :)

73,
Jack WB3U

306. Re: 900 MHz Security

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: "Dana H. Myers" <Dana.Myers@West.Sun.Com>
Message-ID: <4d65jp$p59@abyss.West.Sun.COM>
Source record: 108219

chrise@n0jcf.com (Chris Elmquist) wrote:
>In article <4cjv14$naq@abyss.West.Sun.COM>,
>Dana Myers <myers@West.Sun.COM> wrote:
>>In article <Pine.HPP.3.91.960104190714.15867D-100000@pmafire.inel.gov>,
>>Jack Mott <jackm@pmafire.inel.gov> wrote:
>>>This posting is off-subject for this newsgroup, but I wanted access to
>>>the technical knowledge available here. I have a 900 MHz digital
>>>cordless phone (ATT 9100), and I am interested in how secure this type of
>>>phone is with respect to over-the-air eavesdropping. Please give a
>>>specific, technical answer addressing issues such as RF modulation and
>>>digital encoding. If you post a response, please also send e-mail.
>>
>>The ATT 9100 uses wideband FM, modulated with the CVSD data produced
>>by a Motorola MC3418. I suppose someone could build a receiver
>>or tweak another 9100 to eavesdrop, but, as far as I can tell, this
>>is impractical enough to be of little concern.
>>
>>Certainly it is much more secure than a conventional analog FM
>>phone, and even much more secure than a frequency-inversion
>>scrambled phone. It isn't encrypted, but I would say it is
>>essentially secure. I'm not a security expert, though ;-)
>>
>
>However-- my Tropez 900DL (of which the ATT9100 is a clone) transmits
>a fairly powerful "image" in the clear on roughly 435 MHz. I discovered
>this about a year ago and made a posting or two about it. I even
>contacted Tropez and had a dialog going with someone (a ham even) in
>their engineering group. He promised to look into it and get back
>to me... well, surprise... no response. I probably could start
>pestering again but currently it's not bothering me too much. I'm
>down on 432 where I don't hear it. OSCAR ops would be another story.

I listened for this on my 9100, and could not hear it. I did hear what
appeared to be a very low level spur around 435MHz, but it was not modulated
and it was only heard with the handset about 1 foot from the scanner
antenna. I may have been overloading the scanner front end with the
handset...

307. Re: Need Icom R-71A circuit board

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: Jleikhim@nettally.com
Message-ID: <4d4l93$92d@server.cntfl.com>
Source record: 108220

Jeff Hutchinson <w4pbc@digital.net> wrote:

>I'm restoring a sick R-71A receiver, and need a logic board. Anyone out
>there with one for sale or swap? Will buy a basket-case R-71 if the
>logic board is okay. Vy 73, from Jeff

Try contacting WILLCO electronics
At

PO box 788
New Lenox, il, 60451

Where;

WA9fFVP
Jack Albert was selling the icm1024 no fail memory for $149.95 he
was also advertising to reload the memory in the IC R71 for $30.00.

Please let me know if he's still in business.

308. Re: DC/AC (Inverter) Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4d48u5$elv@news.calweb.com>
Source record: 108221

Dave I beleive the way its done these days is to us an DC to AC converter operating at a frequency such as 50 KHz. Convert this to DC and then switch the DC to generate the AC at the desired frequency. This uses smaller transformers that going directly to 60 Hz or whatever.
Bill K7NOM

309. Re: Low Noise Linear Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-1201960651500001@squaw-d110.sierra.net>
Source record: 108222

In article <4cf4hd$lrb@abyss.West.Sun.COM>, myers@West.Sun.COM (Dana Myers) wrote:

> In article <rst-0301961356490001@squaw-d121.sierra.net>,
> Bob T. <rst@tetrault.com> wrote:
> >Recent postings about the 723 et al looking for low noise regulators,
> >prompted me to go back into the databooks.
> >
> >Looking at the National specs for the LM723, while RMS noise is specified,
> >it is only spec'd as typical, with no maximum.
> >
> >The Motorola databook for their TL431 claims low noise, and even gives a
> >Noise Spectral Density graph, but nowhere do they actually specify even
> >the typical noise characteristics, much less the max values.
> >
> >On the other hand, the National LM369 series of precision references is
> >fully spec'd and guaranteed 30 microVolts RMS maximum, typically 10
> >microVolts, unfiltered. Adding a .1uF film cap brings it down to 4
> >microVolts, and more is better, up to 1uF. Also, the LM369 has ppm
> >stability for line, load and tempco.
> >
> >Unless there is hard data that no 723 exceeds their typical noise spec,
> >ever, my money will continue to go with the LM369, though it is more
> >expensive and dictates a discrete design to the regulator, for low current
> >demand oscillators, a 30 milliampere buffer is a trivial exercise...
>
> How much noise would a 30mA buffer contribute to the LM369 output?
> Is the LM723 spec taken using the integral pass transistor?
>
> --
> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
> * (310) 348-6043 | mine and do not necessarily *
> * Dana.Myers@West.Sun.Com | reflect those of my employer *

The 723 specs only note the typical RMS noise of the reference, with and without bypassing.

310. Re: Re:QST Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-12 00:00:00 UTC
From: Dave Nulton <dnult@axiom.net>
Message-ID: <4d50h0$q7b@atlas.axiom.net>
Source record: 108223
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I've been working on the AT-11 project as well. I'm sure I'm going to more trouble than its worth, but I trying to model the thing on a standard PC using C++. I was hoping to experiment with different tuning algorithyms etc. I intend to design an algorithym thats fast and uses the fewest number of relay clicks.

The focus of my project at this point is writing a program to draw a smith chart and plot impeadance points as I run my algorithym. The smith chart is a handy way of looking at impeadance data - although it has slowed me down quite a bit. I have already written the functions needed to model different algorithyms - just need to write the algorithyms.

I am also looking for a schematic for a "phase / mag" detector - to use instead of the directional voltmeter (or what-chu-ma-call-it) used in the QST project. That way the program could predict the best match instead of clattering relays looking for a match.

I would like to see other folks post info on this here if they get involved with the project. I'd be happy to trade info, but not give it away freely.

73s
de KI5XW

311. surplus police radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: greenac@galaxy.galstar.com
Message-ID: <4d76dl$pk6@mercury.galstar.com>
Source record: 108129

I am interested in building a perimeter security system using a surplus police radar unit. Any suggestions or leads? KE4GBJ

-----BEGIN PGP PUBLIC KEY BLOCK-----
Version: 2.6.2

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-----END PGP PUBLIC KEY BLOCK-----

312. FS: Vhf High Power Duplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: "{Gary} KF9CM turtle"@wwa.com
Message-ID: <4d74h9$gsp@kirin.wwa.com>
Source record: 108130

I have for sale a Sinclair 4 cavity high power VHF duplexer Model# Q-202GC. To my knowledge it's never been used. The cavities are inclosed in a steel cabnet with (3) three conectors on the side. The frequency tuning range is from 132 to 174 Mhz and I have the complete tuning manual.

The Electrical Specifications are as follows:

INSERTION LOSS= Tx 1.5 db
Rx 1.5 db
ISOLATION, Tx Noise at Rx frequency = 80 db
Tx Frequency at Rx Terminal = 80db

MINIMUM ISOLATION Between Tx and Rx Frequencies = 50db

MINIMUM SEPARATION = 500Khz

This is a top of the line duplexer and lists from Sinclair for $1730.... I will take $850 or best offer. This is for local pickup or I can deliver within a 100 mile radius of Chicago Il.

You can "E" mail me at turtle@wwa.com

313. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <4d7ogd$t51@news.azstarnet.com>
Source record: 108131

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>In article <n7ws.26.02237B15@azstarnet.com> n7ws@azstarnet.com (Wes Stewart) writes:
>>
>>The capacitance multiplier idea may work sometimes, but without *very* careful
>>analysis, you might get into real trouble.

>The electronic capacitance amplifier always works, but it doesn't
>excuse one from good electronic practice. It is not a substitute
>for RF bypassing. In fact, due to the finite gain-bandwidth product
>of the emitter follower stage, it is mainly a method to reduce
>*low frequency* ripple in a DC voltage. It does that quite well.
>Good practice tells us to use *both* a large capacitance and a
>small value capacitance to bypass 3 terminal regulators. The
>former for low frequency bypassing, and the latter for high
>frequency bypassing. The electronically amplified capacitor
>can allow us to use a physically smaller capacitor for the
>low frequency bypassing, but it doesn't free us from the need
>to also supply a high frequency bypass for stages prone to
>parasitic oscillation, like the above mentioned 3 terminal
>regulator.

>Gary

Included in my very careful analysis caveat is the effect of
additional capacitance on the emitter of the
emitter-follower.

Some other thoughts on the "If some are good, more are
better" bypassing schemes. One should also consider that
most "low-frequency" capacitor types have fairly low
self-resonant frequencies (SRFs). Above SRF, the capacitor
looks inductive. If this "inductor" is shunted with the
appropriate value "high-frequency" bypass, it is possible to
get a nice high impedance parallel tuned circuit right where
you want the exact opposite. Sprinkle in a few more caps
and you can have even more fun. For instance:

Some years ago, I was approached by a new college grad who
was trying to solve a problem with crosstalk in an i-f
amplifier used in a monopulse radar. This consisted of three
amplitude and phase-matched amplifiers that used matched
everything; FET amplifiers, PIN diodes for AGC and matched
Schottky diode bridges for blanking. Each amplifier board
was installed in a fully shielded machined housing with
feed-thru caps on each power supply and AGC lead. The wires

to these caps were daisy-chained from one to the next. The problem was that despite all the precautions, there was inadequate isolation between channels and poor AGC tracking. Weeks were spent looking at device matching, grounding, etc.

I suggested to this young man that he locate a grid dip meter and look for resonances in the decoupling circuit. (His response was, "What's a grid dip meter", but that's another story). Sure enough, there was a resonance between the connecting lead lengths and the capacitors close to the i-f. A change in wire dress and feed-thru capacitor values moved the frequency enough to eleminate the problem. Here was a case where everything was done "right" and we still had a problem.

73, Wes

314. Re: RF compression

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan13.093618.4054@ke4zv.atl.ga.us>
Source record: 108132

In article <9600128214.AA821482740@mails.imed.com> mack@mails.imed.COM writes:
>There has been a thread here for a few days regarding SSB processing,
>vs DSB processing vs split band baseband processing.
>
>It started me thinking about some products the Philips and others make
>called compandors (compression/expander like modem is
>modulator/demodulator). Does anyone know if these products do the
>kind of compression that we seek to do in the amateur service with RF
>kinds of things? I have never seen an amateur use of these devices
>that I can remember. The only thing close was the section in the 1985
>Handbook on amplitude-compandored SSB.

Compressors are different from the clippers in purpose. A compressor
is an AGC amplifier that responds to *average* speech level using a
relatively slow time constant. Clipping is designed to remove momentary
voice peaks so that the peak to average ratio of speech is reduced.
This latter is important because it relaxes the constraints on the
linear amplifiers since they don't need such a high linear peak power
response. A compressor's time constant is much too slow to follow peaks,
so it doesn't relax the peak to average ratio constraint on the linear
amplifier, though it does increase the average demand on the amplifier.
The two circuits are typically used *together* to increase "talk power".

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

315. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan13.100303.4285@ke4zv.atl.ga.us>
Source record: 108133

In article <4d7ogd$t51@news.azstarnet.com> n7ws@azstarnet.com (Wes Stewart) writes:
>I suggested to this young man that he locate a grid dip
>meter and look for resonances in the decoupling circuit.
> (His response was, "What's a grid dip meter", but that's
>another story). Sure enough, there was a resonance between
>the connecting lead lengths and the capacitors close to the
>i-f. A change in wire dress and feed-thru capacitor values
>moved the frequency enough to eleminate the problem. Here
>was a case where everything was done "right" and we still
>had a problem.

Sure, you bet, the non-obvious can bite you if you aren't
careful. That doesn't detract from the value of the
capacitance multiplier technique in general, however.
It just means you have to use it in conjunction with
the care you'd use with any other method.

Since we're into war stories, I'll relate a recent incident
which may highlight overlooking the obvious. I was called
in to aid the chief engineer of a local television station
with a problem he was having at his transmitter site. The
symptom was very low chroma on the transmitted signal. He
had swept the transmitter, and its response was fine. He
had checked the output of the STL, it was fine. He had
bypassed all the terminal equipment between the microwave
and the transmitter, no help. He was stumped.

I took one look and immediately saw the problem. The cable
carrying the signal from the STL to the transmitter was
roughly 1/4-wave at 3.58 MHz. Obviously it was acting as a
suck-out trap. The only way that could happen would be for
a ground to be broken. Sure enough, in the STL frame, the
ground trace to the BNC was cracked. Thanks to good plant
grounding, no hum was introduced that would have given
the problem away, but the coax was acting as a trap for
the 3.58. A moment's work with a butane soldering iron,
and the suck-out magically disappeared. Case closed,
collect fee. :-)

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

316. Amidon?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: kogletre@kings.kings.k12.CA.US
Message-ID: <Pine.SOL.3.91.960113001001.6752A-100000@kings.kings.k12.ca.us>
Source record: 108134

jeffd@coriolis.com (Jeff Duntemann) wrote:

*fflynn@together.net (Francis Flynn) wrote:

*>Does anyone have a current address and phone number for Amidon Associates?

*>The phone number I have is 213 763 5770, it's disconnnected. Directory
*>assistance was no help either.

*>If they are gone, does anyone have a good source of toroids?

*I've bought a lot of toroids from Johnson Shop Products, which I
*believe is in Cupertino. I don't have the phone or address here at
*the office, but he should be in the phone book.

Amidon has moved to new digs, the address is:

Amidon, Inc
3122 Alpine Avenue
Santa Ana, CA 92704

Voice: (714) 850-4660
FAX: (715) 850-1163

73,
Kent - KD6NHP

317. PC-Trace

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: Carter Brock <cbrock@dialnet.net>
Message-ID: <30F82505.70A9@dialnet.net>
Source record: 108135

The January issue of Nuts & Volts magazine has an article by T.J. Byers on circuit design software under $100. In this article there is referance to two shareware packages "PC-Trace" and "Schematic Plus" that are advalible from http://users.aol.com/spoulsen/index.htm. I have tried this URL and it goes nowhere. Does anyone have another source for this software?

Thanx Carter Brock cbrock@dialnet.net

318. Re: Information on 74C945 and 74C947

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: "Roy J. Wheaton" <techwork@ix.netcom.com>
Message-ID: <30F80097.1696@ix.netcom.com>
Source record: 108136
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Doug Faunt N6TQS +1-510-655-8604 wrote:
>
> Is there any place on the net I can get information about these two
> IC's? If not on the net, another good source of information?
> Thanks, and 73,
> dougDoug:
The information is available from National Semi'd web page:
http://webdirect.natsemi.com
Hope this helps.
Roy
--
"I'm not always right, but I'm always sure!"

319. tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: am024@detroit.freenet.org
Message-ID: <4d7dvb$m8b@detroit.freenet.org>
Source record: 108137

I seem to remeber a few posts a while back about being able to tune in SSB stations with an AM radio (SW) by just running a 477 khz oscillator near it.... Is this true? Do crystals run down that low? If so I could just build a VXO in that area and be able to adjust it... Has anyone made this work?

320. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4d7lvt$cea@newsbf02.news.aol.com>
Source record: 108138

In article <1996Jan12.195031.850@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>
>I think you just analyzed it wrong. The dV/dt for a transformer is
>going to be such that it won't even begin to saturate in the 2 nS
>it takes the MOV to clamp. So it will never see the transient.
>
>Gary

Hi Gary,

I don't think I analyzed it wrong.

The rise time of the transformer actually helps prevent the coupling of high frequency transients to the secondary (at least in the designs I am familiar with) much better than a MOV ever could. You aren't trying to say a typical 60 HZ transformer requires time to saturate, and responds very well to transients?

Most transformers I'm aware of are operated *reasonably* close to core saturation. If they are not operated that way, efficiency, regulation, and space is wasted. No manufacturer likes to do that. Core saturation makes it virtually impossible to couple transients to the secondary through magnetic coupling. If the transient is large enough to do damage, the MOV would likely be useless anyway since it's shunt resistance is so high compared to the saturated winding impedance.

The on resistance between 6 and 20 ohms is about worthless across a power line, unless the transient is pretty puny or comes from a high impedance source. If the transcient is that frail, the transformer can handle it fine. If the transient comes from a "stiff" or low impedance (high current) source, the MOV has too high an impedance. The equipment is history anyway!

I'm not saying MOV's are usless in all applications. They are great in some applications, such as telephone lines (where the goal is to protect the customer or house). They can certainly help protect line operated transformerless supplies, and can reduce the chance of arcing from extremely high common mode voltages between the line and chassis. MOV's just don't do much to help things on the secondary side of a transformer. A six ohm clamp isn't what I would consider particularly "hard" compared to the impedance of a 20 amp 120 volt supply line.

73 Tom

321. Re: Amidon?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4d6th4$alv@globe.indirect.com>
Source record: 108139

fflynn@together.net (Francis Flynn) wrote:

>Does anyone have a current address and phone number for Amidon Associates?

>The phone number I have is 213 763 5770, it's disconnnected. Directory
>assistance was no help either.

>If they are gone, does anyone have a good source of toroids?

I've bought a lot of toroids from Johnson Shop Products, which I
believe is in Cupertino. I don't have the phone or address here at
the office, but he should be in the phone book.

--73--

--JD--

322. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.31.0141CB21@azstarnet.com>
Source record: 108140

In article <4d7dvb$m8b@detroit.freenet.org> am024@detroit.freenet.org (Robert Thomas Jackson) writes:
>From: am024@detroit.freenet.org (Robert Thomas Jackson)
>Subject: tuning in CW/SSB stations w/ AM only radio?
>Date: 13 Jan 1996 04:55:07 GMT

>I seem to remeber a few posts a while back about being able to
>tune in SSB stations with an AM radio (SW) by just running a
>477 khz oscillator near it.... Is this true? Do crystals run
>down that low? If so I could just build a VXO in that area and
>be able to adjust it... Has anyone made this work?

The usual i-f is 455 KHz. Yes crystals can be had for this frequency. A vcxo would probably have very limited tuning range, however. This scheme will work after a fashion. The AM detector is used to mix the externally supplied carrier (BFO) with the SSB signal. The problems include; getting the BFO to i-f amplitude ratio correct, AGC system overload from the BFO, poor i-f selectivity, etc.

Good luck.

Wes -- N7WS

323. TS440 and transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: jps@naakka2.cs.tut.fi
Message-ID: <4d87d4$s57@peippo.cs.tut.fi>
Source record: 108141

Hello
Have anyboby good tips for cnnecting transverter to
Kenwood TS-440SAT. My transverter is from 28MHz to 50MHz.
The TX-converted needs abt. 0dBm signal and my plan
was to take that 28MHz rf-signal before final unit.
Another way is take signal from antenna-connector.
Then i must reduce output power of final unit by using
alc-voltage, but theres possibility for damage if my
alc-connector poorly connected: 100w to transverter input ==
big cloud of beautiful blue smoke.
It is also possible to run power to the dummy load and
take signal from it by attenuator, but i dont want to
warm up my hamschack.

If i take power before final unit, then i must somehow
"kill" final unit or cut off the signalway from
driver to final. If only i cut signal, is it possible that
the final start to oscillate on its own?

In ICOM IC-735 is connector for transverter, but i dont
know how it is done in that rig.

Jukka/OH*NLP (* = 0 - 9, normally 3)(1996 pxf also could be OI)

324. Information on 74C945 and 74C947

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: faunt@netcom12.netcom.com
Message-ID: <FAUNT.96Jan13104748@netcom12.netcom.com>
Source record: 108142
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Is there any place on the net I can get information about these two
IC's? If not on the net, another good source of information?
Thanks, and 73,
doug

325. Re: BFO Project Questions ?????

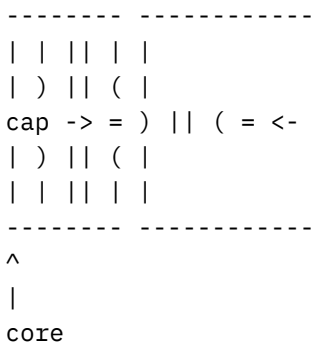
Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan13.092048.3914@ke4zv.atl.ga.us>
Source record: 108143

In article <4d1rnv$81i@news1.netzone.com> "Brian C. Dolan" <bdolan@netwest.com> writes:
> I recently downloaded a small schematic for a BFO synthesizer add-on
> for SW receivers, that I found on a QRP related site. Within the brief
> text associated with the schematic, it states:
>
> "The heart of this project is a 455 kHz IF transformer: go
> to your closest junked broadcast radio receiver and steal one
> from there."
>
> Not knowing what a "455 kHz IF transformer" is, and being an
> inquisitive guy, I pried open the nearest cheapo AM radio and found
> some things I recognized, and some I didn't. Process of elimination
> led me to rule out the resistors, capacitors, coils (chokes?) and
> transistors. This left the metal "cubes" (7 in this case),each with a
> hole in the top. In the hole is something with a flatbladed
> screwdriver slot in it. Is this an IF transformer? If it is, can
> someone briefly explain what it does? Additionally, each one has a
> different color in it; what does the color signify? (...maybe the 455
> kHz aspect ???)

The cans are the IF transformers, and maybe a shielded coil or two
as well. The way to tell the difference is that the transformers
have two isolated windings, the shielded coils do not. (The shielded
coils may be oscillator coils.) The screwdriver like slot tunes the
core of the transformer. Note: don't use a real screwdriver, a non-
metallic tuning wand is required (a set of them is available from
your local electronics supplier). You can easily break the ferrite
core material with a regular screwdriver, and the metal of the
screwdriver will detune the circuit, making it difficult to adjust.

> Later in the text, it states:
>
> "Adjust the transformer slug until it resonates at 455 kHz,
> which can be accomplished using a receiver or GDO. AS you tune
> the slug (using the receiver) you should hear the heterodyne
> note of the BFO lowering in pitch until it eventually zero-
> beats."
>
> This section left me scrathing my head. I assume it has something to
> do with those screwdriver slots, but I have no idea what it's trying
> to get me to do. How would I use a receiver to do this? What is a GDO?
> What is "zero-beats"?

Ok, the transformers have internal capacitors in parallel with the
windings. The schematic looks like this:



As you can see, an IF transformer consists of two parallel resonant LC tanks coupled together by mutual inductance. By screwing the core in or out of the coils, the *inductance* of the coils is changed. That in turn changes the resonant frequency of the LC combinations on the primary and secondary. If you remember from your exam, ferromagnetic material changes the inductance of a coil, increasing it when present, decreasing it when absent. So screwing the core *in* increases inductance while screwing it *out* decreases inductance. That, of course has an inverse effect on frequency of resonance, IE screwing the core *out* increases resonant frequency while screwing it *in* decreases resonant frequency. So that's how you "tune" the transformer.

Ok, what's a GDO. GDO stands for Grid Dip Oscillator. Now we don't use vacuum tubes much anymore, but the term has held on. What it is is a test instrument consisting of a tunable oscillator with an exposed coil. That coil is brought near something whose resonant frequency you want to find. When the GDO is tuned to the resonant frequency of the unknown, energy is drawn out of the oscillator coil, and a "dip" in current is seen on the meter, which is measuring feedback current in the "grid" (or gate with a modern FET) of the oscillator. That's very useful. Amplifier tank circuits can be pretuned using a GDO, and antenna resonance can be found using a GDO.

With a powered oscillator circuit, there is another way. That's to use your receiver to find the frequency of oscillation, which will, of course, be the resonant frequency of the unknown LC tank. Now with an SSB receiver, as you tune near a signal, you hear a beat, or tone, in the receiver. This is a mixer product and corresponds to the *difference* in frequency of the receiver oscillator and the unknown oscillator. As you tune closer to the unknown oscillator's frequency, the beat note will become lower in pitch. Finally, when the receiver is exactly tuned to the oscillator's frequency, the difference will become zero, and the pitch of the beat note will become zero, IE zero beat.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us

Lawrenceville, GA 30244 | |
--
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Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

326. Commercial License Exams, Columbus OH

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: pcarter@freenet.columbus.oh.us
Message-ID: <4d99q0$sl6@acme.freenet.columbus.oh.us>
Source record: 108144

Commercial radio exams will be held in Columbus, Ohio January 20, 1996.
For more information or to register, call 614-240-0059.
--
pcarter@freenet.columbus.oh.us
Philip L. Carter, WD8QWR
wd8qwr@w8cqk.#cmh.oh.usa.na

327. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: ionguy@ix.netcom.com
Message-ID: <4d96v0$rkm@ixnews8.ix.netcom.com>
Source record: 108145

It's been a long time but one of my electronics instructors in school once did a lot of his own research on power conditioning techniques. Using a transient generator and scope, he had good luck using MOV's if they were across all three inputs (line, neutral, and ground) and preferably followed by a low-pass filter network. The LPF helped "slow down" the pulse while the MOV went into conduction. All of this preceded the transformer primary.

By the way, semiconductor devices such as "Transorbs" are much faster but are also less robust and more expensive.

In <1996Jan13.104606.4572@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>In article <4d7lvt$cea@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>>
>>The on resistance between 6 and 20 ohms is about worthless across a power
>>line, unless the transient is pretty puny or comes from a high impedance
>>source. If the transcient is that frail, the transformer can handle it
>>fine. If the transient comes from a "stiff" or low impedance (high
>>current) source, the MOV has too high an impedance. The equipment is
>>history anyway!
>>
>>I'm not saying MOV's are usless in all applications. They are great in
>>some applications, such as telephone lines (where the goal is to protect
>>the customer or house). They can certainly help protect line operated
>>transformerless supplies, and can reduce the chance of arcing from
>>extremely high common mode voltages between the line and chassis. MOV's
>>just don't do much to help things on the secondary side of a transformer.
>>A six ohm clamp isn't what I would consider particularly "hard" compared
>>to the impedance of a 20 amp 120 volt supply line.
>
>You didn't read what I wrote, Tom. During the IEEE 8/20 transient,
>the MOV has an effective "on" resistance of 6.15e-6 ohm, that's
>*not* 6 ohms, that's 6 *millionths* of an ohm. This is dynamic
>behavior, of course, and only lasts for the 20 microseconds of

>the transient waveform. If the transient persists, steady state
>"on" resistance is around 20 ohms, but the device will self-
>destruct under that condition.
>
>MOVs certainly do work to protect transformer powered equipment,
>as the blown MOVs in my Astron supply attest. They gave their
>lives clamping the lightning transient, and the power supply
>survived. On reflection, MOVs of greater than 60 joule surge
>rating should have been in there. They wouldn't have died while
>doing their duty.
>
>You might think that the transformer would swallow the transient,
>but it won't. The core saturation has nothing to do with it. The
>transient will couple through the transformer via the inter-winding
>capacitance and puncture electrolytic capacitor junctions and
>solid state device junctions if the MOV is not present. The transient
>is very high frequency RF.
>
>A MOV can't be modeled as just a voltage dependent resistor. Its
>dynamic behavior is much more complex than that. It's made up of
>a sintered mix of electron donor and electron receptor materials.
>The 60 joule device for which I quoted specs has the ability to
>"eat" 3/4 of a coulomb of charge, and leak it away gradually
>and safely after the event. The best model for a MOV is that of
>a paralleled RC snubber, but that doesn't accurately portray the
>complete device physics either. Once the charge is "swallowed"
>it can't get out either way without going through the high "off"
>resistance of the device.
>
>Let me try a crude description of how a MOV works. Inside the
>MOV, picture a bunch of capacitor plates separated by insulating
>material. Initially, the "capacitors" have a neutral charge, and
>the insulation value is high enough to prevent sensible current
>flow. During a transient, the insulation breaks down, a
non-destructive
>(if within device joule ratings) arc forms which rapidly charges
>the capacitor plates. This distributes charge throughout the device.
>The potential between one "capacitor" and another is small enough
>that the insulation doesn't break down, and the current can't get
>back out except by very slow leakage. It "eats" charge, up to
>3/4 coulomb of it for the device I described. It can't do that
>indefinitely, of course, which is why it can only handle a transient
>of limited duration. Longer duration overvoltages will make the
>insulation arcing destructive rather than non-destructive and
>the device becomes conductive and destroys itself.
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, |
gatech!wa4mei!ke4zv!gary

>Destructive Testing Systems | we break it. |
emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! |
gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |

328. Re: re:copyleft

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: faunt@netcom2.netcom.com
Message-ID: <FAUNT.96Jan12185510@netcom2.netcom.com>
Source record: 108146

I believe Phil Karn has just this sort of protection on the KA9Q
package. It's a much more vulnerable product, and I don't know how
it's working for him.

The more I learn about the 68HC11, the more frustrated I am about
this. As near as I can figure, the antenna tuner could be its own
developement system, with the addition of a pair of RS-232 converters,
and software to run on a PC or Mac that's available as freeware.
No EPROM programmer or eraser required.
I'm still learning. I've been getting packages from Motorola on a
daily basis, although that's slowing down.
73, doug

329. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan13.104606.4572@ke4zv.atl.ga.us>
Source record: 108147

In article <4d7lvt$cea@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>
>The on resistance between 6 and 20 ohms is about worthless across a power
>line, unless the transient is pretty puny or comes from a high impedance
>source. If the transcient is that frail, the transformer can handle it
>fine. If the transient comes from a "stiff" or low impedance (high
>current) source, the MOV has too high an impedance. The equipment is
>history anyway!
>
>I'm not saying MOV's are usless in all applications. They are great in
>some applications, such as telephone lines (where the goal is to protect
>the customer or house). They can certainly help protect line operated
>transformerless supplies, and can reduce the chance of arcing from
>extremely high common mode voltages between the line and chassis. MOV's
>just don't do much to help things on the secondary side of a transformer.
>A six ohm clamp isn't what I would consider particularly "hard" compared
>to the impedance of a 20 amp 120 volt supply line.

You didn't read what I wrote, Tom. During the IEEE 8/20 transient,
the MOV has an effective "on" resistance of 6.15e-6 ohm, that's
not 6 ohms, that's 6 *millionths* of an ohm. This is dynamic
behavior, of course, and only lasts for the 20 microseconds of
the transient waveform. If the transient persists, steady state
"on" resistance is around 20 ohms, but the device will self-
destruct under that condition.

MOVs certainly do work to protect transformer powered equipment,
as the blown MOVs in my Astron supply attest. They gave their
lives clamping the lightning transient, and the power supply
survived. On reflection, MOVs of greater than 60 joule surge
rating should have been in there. They wouldn't have died while
doing their duty.

You might think that the transformer would swallow the transient,
but it won't. The core saturation has nothing to do with it. The
transient will couple through the transformer via the inter-winding
capacitance and puncture electrolytic capacitor junctions and
solid state device junctions if the MOV is not present. The transient
is very high frequency RF.

A MOV can't be modeled as just a voltage dependent resistor. Its
dynamic behavior is much more complex than that. It's made up of
a sintered mix of electron donor and electron receptor materials.
The 60 joule device for which I quoted specs has the ability to
"eat" 3/4 of a coulomb of charge, and leak it away gradually

and safely after the event. The best model for a MOV is that of
a paralleled RC snubber, but that doesn't accurately portray the
complete device physics either. Once the charge is "swallowed"
it can't get out either way without going through the high "off"
resistance of the device.

Let me try a crude description of how a MOV works. Inside the
MOV, picture a bunch of capacitor plates separated by insulating
material. Initially, the "capacitors" have a neutral charge, and
the insulation value is high enough to prevent sensible current
flow. During a transient, the insulation breaks down, a non-destructive
(if within device joule ratings) arc forms which rapidly charges
the capacitor plates. This distributes charge throughout the device.
The potential between one "capacitor" and another is small enough
that the insulation doesn't break down, and the current can't get
back out except by very slow leakage. It "eats" charge, up to
3/4 coulomb of it for the device I described. It can't do that
indefinitely, of course, which is why it can only handle a transient
of limited duration. Longer duration overvoltages will make the
insulation arcing destructive rather than non-destructive and
the device becomes conductive and destroys itself.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

330. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.30.0010785A@azstarnet.com>
Source record: 108148

In article <1996Jan13.100303.4285@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>From: gary@ke4zv.atl.ga.us (Gary Coffman)
>Subject: Re: VCO power supply noise reduction
>Date: Sat, 13 Jan 1996 10:03:03 GMT
[snip]

>... A moment's work with a butane soldering iron,
>and the suck-out magically disappeared. Case closed,
>collect fee. :-)

Good work! Except what's an STL?

I'm on straight salary, although the way the
defense biz is these days, it has a negative slope :((

73, Wes

331. Digital station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: drathar333@aol.com
Message-ID: <4d9vd6$b12@newsbf02.news.aol.com>
Source record: 108149

Can anyone tell me what a person would need to set up a digital radio
station or point me to some good resorces?
Write to Matthew_Pritchard@bendnet.com

332. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan13.175747.7610@ke4zv.atl.ga.us>
Source record: 108150

In article <n7ws.30.0010785A@azstarnet.com> n7ws@azstarnet.com (Wes Stewart) writes:
>In article <1996Jan13.100303.4285@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>>... A moment's work with a butane soldering iron,
>>and the suck-out magically disappeared. Case closed,
>>collect fee. :-)
>
>Good work! Except what's an STL?

Studio to Transmitter Link.

>I'm on straight salary, although the way the
>defense biz is these days, it has a negative slope :((

Yeah, I heard that. The corporate jungle isn't quite so
secure these days.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

333. Publishing Articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: web40@charweb.ORG
Message-ID: <Pine.SOL.3.91.960113122140.9134B-100000@wilbur>
Source record: 108151

I have been reading with interest the discussion of publishing articles in magazines such as QST, etc. In my opinion, as long as a construction project has a broad appeal, contains parts which are available at a *reasonable* price, (No specialty parts which are selling for an outrageous price as compared to similar parts), and is not just a redesign of an earlier item unless it introduces a new technology or idea, then I would welcome seeing it published.
As far as the use of specialized parts in a construction project, I disagree with the idea of saying "if you want it to work, buy XXX part." Amateurs have a long tradition of homebrewing workarounds for parts which for one reason or another are hard to come by. For that reason, enough information *should* be provided in the article to build a working model by using ingenuity and other available parts if the builder wishes to do so. (IMHO a homebrew project should be just that. If you can come up with a different way of obtaining the results, more power to you!) I have no problems with an article that offers parts/kits/circuit boards, etc. to use *if you don't want to build/design your own*, however for publication in a section dedicated to homebrew type articles, it shouldn't be "required".

Jim Ross - KF4DCF

334. Mitsubishi as RF device supplier?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-13 00:00:00 UTC
From: rheiss@tuba.aix.calpoly.edu
Message-ID: <4d8mfu$1hq3@tuba.aix.calpoly.edu>
Source record: 108152

The UHF hybrids sound interesting, and I am also looking for HF transistor (MRF485, etc.) alternatives to Motorola. So, want to share any opinions on Mitsubishi? What data books or app notes should I ask for? A distributor which accepts small credit card orders would be nice to know about, too. Thanks.

73, Rob KO6KA
rheiss@tuba.calpoly.edu

335. Re: CMOS SUPERKEYER II CURRENTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4d9rgp$dcs@news-f.iadfw.net>
Source record: 108074

tomz@premier1.net (Tom) wrote:

>> It would be interesting to hear from others that make similar
>> Mine is probably has the first firmware release as I built it shortly
>>after the article was published in November 1990 QST.

>I would Like to build up one of these keyers. I have the basic info on it
>from the book but need to get the programed part or a copy of the file to
>program the part with. If anyone has the contact information for the auther
>please pass it on.

>Thanks.

I saw a small ad in the latest QST stating that both versions of the
Superkeyer (II and III) are still available. It was back where the
section news is, pretty small, but still there. It is from Idiom
Press, got to be the best keyer bargain around. I've used mine for
several years, only changed batteries once, and it sure makes contests
less tiring. Best addition to my shack in years (ok, except for the
FT-990)...
73,
Kerry Miller
WD5ABC

336. Re: Electonic flash unit problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: acopac@hope.netwizards.net
Message-ID: <4dba3d$a9g@news.wco.com>
Source record: 108153
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

Its possible the tube is bad - However are you sure the trigger is
operating - the you might see if you can draw an arc from the trigger
transformer (4kV) if you trigger the flash.

Replacement tubes are usually available - but not cheap. In the US
Mouser Electronics sells them...

Also you might want to list on the rec.photo.misc ----- or other photo
groups
Noland
archive@flash.ATC.Olivetti.Com (DCG Mktg Docmnt (Ivrea)) wrote:

>
>
>I have an electronic flash unit purchased in 1970. After being unused for
>many years, I find that now it does not function correctly. The lamp is
>powered by 250 Vcc and the flash is triggered by a pulse. I have
>checked the capacitor, which is in good condition. Has the lamp failed
>through again?? Does anybody have the answer?
>
>
>
>
>
>
>
>

337. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: faunt@netcom2.netcom.com
Message-ID: <FAUNT.96Jan14081546@netcom2.netcom.com>
Source record: 108154

Newsgroups: rec.radio.amateur.homebrew
From: ke3mf@atc.ameritel.net (Glenn Thorn)
Date: Sun, 14 Jan 1996 07:43:39 GMT

The authors of the autotuner were a bit concerned since they didn't
want 2 years of work to be stolen by another company and their code
put to use in another "like product".
I'm not convinced this fear is realistic, but it is apparently there.
Once again, I refer to the KA9Q code, and the protections it has.
I'd also be willing to sign a non-commercial use agreement, myself,
but that doesn't affect the education of the general ham population
issue.

A few other points:

- The code is of no use to 90 percent of those who build the tuner,
Assembly is not easy to sit down and understand.
It's not that hard, either. And there are a lot of us who've done
some of this at various times. The architecture of the 6800 is not
complicated, and if there's a framework to build on, it's even easier.
And, refering back to the KA9Q example, many people
have contributed to that effort to the benefit of the whole community.
But should the article be aimed at only those who build the tuner?
How about those who would be able to learn from the article how such a
thing is done?

- You must have some way to burn the chip, the tuner doesn't have
RS-232 capibility.
Once again, adding this is not hard. I actually want to be able to
control the tuner via RS-232, so it's got double usage. Software for
this is freely available. I suspect that most of us who would make
changes would have to replace the A1 version (512 bytes of EEPROM) of
the uprocessor with the 8E2 (2048 bytes) version, to have some working
room. This is the big expense.

- Dwayne will release the code for an SASE and a disk, call him!
Now this seems to be a new offer, that I plan to take up.

- The ARRL did not print the flow chart of the software, that was
their choice. (My quess is it wouldn't mean much to the majority of
the readers)
I've already sent a SASE for the flowchart.

I asked Dwayne to give me the .s19 file for posting here. It is the
Hex dump to the chip so if you have a burner, you can upload it to the
chip if you want to purchase it or already have one. I think he will

do it, please post or E-mail if you want it (free, of course).

In case anyone cares, I did the initial relay testing and final
product testing... for no compensation.
Thnak you very much for this. This is one of the parts of the unit
that makes it a worthwhile article as it is, and such a shame that it
stopped when it did.

Great comments, everyone!

73,

de Glenn, KE3MF

73, doug

338. Need: Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: nfourlq@sellington.win.net
Message-ID: <10@sellington.win.net>
Source record: 108155

Need an old power transformer to build a little tube type
transmitter. It needs to have a secondary of about 600 to 800
volts and a filiment winding for 6.3 vac. Will be glad to pay for
it and for shipping.

Please send E mail to N4ZO@AOL.COM

GUS N4ZO

339. Re: Cushman Service Monitor Frequecy Expansion [cush.txt] (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: Bill Risch <brisch@skypoint.com>
Message-ID: <4d9kh2$qbr@stratus.skypoint.net>
Source record: 108156

What did you use to zip this file? I can't seem to get unpacked with
any of the utilities I have. Pkzip and the like.
thanks in advance, Bill

340. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: tdrumm@sparc.isl.net
Message-ID: <4db5po$akn@news.isl.net>
Source record: 108157

In article <1e7cc$2171c.2ba@NEWS>, ke3mf@atc.ameritel.net says...
>
>gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>>Firmware is virtual circuitry. | |
>
>
>- The code is of no use to 90 percent of those who build the tuner,
>Assembly is not easy to sit down and understand.
>
>- The ARRL did not print the flow chart of the software, that was
>their choice. (My quess is it wouldn't mean much to the majority of
>the readers)
>

I have a lot of mixed emotions on this. It *is* 1996 and ICs are the way electronics are built today. I'd like to see more use of high-function ICs in home-build articles. On the other hand, it *is* 1996 and a lot of us make our living doing software. I view these articles as something to learn from. I was unhappy that there wasn't at least a flow chart. My guess is radio electronics may not mean much to a large portion of QST's readership - that's not the best excuse. The idea is to teach something.

I like the idea of being able to get all the parts somewhere and get the parts that are tough to do at home (like the programmed IC). But, ever curious, I would like to know how it works.

Tony
AA0SM

341. Re: power inverters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: bgudgel@eskimo.com
Message-ID: <DL6qG3.Hqq@eskimo.com>
Source record: 108158

Trace Engineering (an inverter manufacturer) has a home page that talks
some about inverter types, and has links to other energy web sites.
You might give it a try. http://www.eskimo.com/~trace
Bob KI7IQ

342. Re: PC-Trace

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan14.195016.12846@ke4zv.atl.ga.us>
Source record: 108159

In article <30F82505.70A9@dialnet.net> Carter Brock <cbrock@dialnet.net> writes:
>Content-Transfer-Encoding: 7bit
>X-Mailer: Mozilla 2.0b5 (Win95; I)
>
>The January issue of Nuts & Volts magazine has an article by T.J. Byers
>on circuit design software under $100. In this article there is
>referance to two shareware packages "PC-Trace" and "Schematic Plus" that
>are advalible from http://users.aol.com/spoulsen/index.htm. I have
>tried this URL and it goes nowhere. Does anyone have another source for
>this software?

Back out a little, Carter, and it works, IE try
http://users.aol.com/spoulsen/ and you'll get the
home page. Click in the download section and you'll
get the zip file. Apparently there is no index.htm
on the server, and that's what's causing the problem.
Note, there seems to be a missing gif on the homepage
as well, ignore that too. Just go for the goodies.

The zip contains a crippled version of the software,
you've got to register it to get it to save and print,
but the price is right.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

343. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: gmfoster@cpcnet.com
Message-ID: <1e7cc$12e0.1ca@luzskru.cpcnet.com>
Source record: 108160

ke3mf@atc.ameritel.net (Glenn Thorn) wrote:

>gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>Snip

>>Firmware is virtual circuitry. Withholding information about the
>>firmware in a construction article is no different from withholding
>>schematic diagrams. Would you support paying for and publishing
>>a construction article that required the reader to buy the schematic
>>separately from the article author? (I might, that's essentially
>>what you're doing when you use any commercial IC. If you want the
>>internals, you have to buy the manufacturer's data book.) But more
>>to the point here, should you print a construction article where you
>>can't obtain the schematic, even from the author? I think not, that's
>>like the magic antenna tuner which was just a glob of expoxy hiding
>>a power resistor that QST correctly X-rayed and brought to public
>>attention a number of years ago. (Note: that's not a totally bogus
>>idea in certain special circumstances, but the way it was presented
>>bordered on fraud because there was no way to determine how it worked
>>thanks to the deliberately hidden internals.)

>>Gary
>>--
>>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>>Lawrenceville, GA 30244 | |

>The authors of the autotuner were a bit concerned since they didn't
>want 2 years of work to be stolen by another company and their code
>put to use in another "like product".

I have no problem with this but it does shoe that the author considers
the unit a product. The historical purpose of publishing an article in
a technical journal has been to share information. If he wants to
consider it a product great and I hope he make a return that
encourages him to keep producing products for the amateur market.
However why should this type of product be given space in a journal of
the ARRL. Ten Tech has an intresting new line of kits, shoule they be
payed to partially describe thier offerings in QST?

Its not the manfactures of the product I have a problem its the
editors of QST that I disagree with. The articl is no more than a
product review. And its reviewed by the same firm that sells it. Not
avery suitable arangement.

>A few other points:

>- The code is of no use to 90 percent of those who build the tuner,
>Assembly is not easy to sit down and understand.
Well written assembly is no tougher to understand than any other techinical presentation. Properly commented you don't even to know the code of the specific processor to "Understand" the operation of the program. ANd isn't that selling the members a little short saying we aren't able to understand?
>- You must have some way to burn the chip, the tuner doesn't have
>RS-232 capibility.

>- Dwayne will release the code for an SASE and a disk, call him!
But in the future any one reading the article won't know that. In the future people researching the progect won't know this. I still go back to articles published in the 60's to understand phasing type SSB generators. And that is only one example.
>The ARRL did not print the flow chart of the software, that was
>their choice. (My quess is it wouldn't mean much to the majority of
>the readers)

My guess is that many explanations go over the heads of many readers, however I don't see that as a reason to ignore those that could understand. And those that don't understand are the ones that could benifit the most if they studied it.

>I asked Dwayne to give me the .s19 file for posting here. It is the
>Hex dump to the chip so if you have a burner, you can upload it to the
>chip if you want to purchase it or already have one. I think he will
>do it, please post or E-mail if you want it (free, of course).

Well I'd rather have his flow chart posted. Do you think he would let you do that?

>In case anyone cares, I did the initial relay testing and final
>product testing... for no compensation.

And I thank you.

>Great comments, everyone!

>73,

>de Glenn, KE3MF

As you know the author please pass on to him that I think he has an interesting product and it seems very fairly priced. Do you know why the decession was made not to use a phase detector? As 4 A/d were available it would seem to have been a natural and made the algorithem even simpler. (of course I haven't any effort in either type of program>)

However even though myself and others have commented on the lack of a phase detector everyone should remimber that probablly 99 percent of all who use a manual tunner. use a SWR bridge only. And if you can do

it manually then properly written code can do it.

Garry (WB0NNO)

344. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: k23690@proffa.cc.tut.fi
Message-ID: <4daqvq$gi6@proffa.cc.tut.fi>
Source record: 108161

Wes Stewart (n7ws@azstarnet.com) wrote:

> In article <4d0kr1$1nl@proffa.cc.tut.fi> k23690@proffa.cc.tut.fi
> (Kein{nen Paul) writes:

>>Think about a simple waveform consisting of frequencies f and 2f and both
>>have the positive peak at the same time (this resemples the speech
>>waveform). aAssume that f and 2f fall into different subbands as clean
>>stable sinus signals with no need for clipping. Summing these signals
>>and you get a positive peak twice as high as the individual signal. This
>>corresponds to four time peak power in an SSB transmitter compared
>>to a single tone.
>
>This is what we call an amplifier with a gain of two. If this
>overmodulates the transmitter, we can reduce the audio gain control
>accordingly.
>
>> You have gained nothing with a multiband clipper.
>
>With your example, we can't call it a clipper because you specified no
>clipping is occurring. Obviously, there is nothing gained until we *do* allow
>clipping. That's what it's all about.

Allowing clipping does not change the situation.
If we set the clipping at +/- 1/2 the peak amplitude in each channel,
we get square waves with half the amplitude of the pure tones (f and 2 f).
Bandlimiting the channels, the harmonics of the square wave are filtered
out and we get sine waves at 1/2 the original amplitude. Summing these
signals, we get the original signal envelope which is attenuated by 6 dB.
Since the envolope is still the same, there is not an improvement in
peak-to-average ratio compared to the case of no clipping.

I admit that assuming that the f and 2f tones of the original signal are
a bit unrealistic. For typical voice signals the harmonics are weaker
and the high frequency channels will not limit as easily as the low
frequency channels. The net effect is a change in the spectral contents
of the signal favoring the high frequencies.

This is just a high-pass filter with the corner frequency controlled
by the signal level :-)

While it is interesting to debate the peak-to-average, readability is a
much more complex subject. Other factors, such as the quality of the voice
(male/female) the spectrum of the noise+interference at the receiving
site affect the readability.

Paul OH3LWR

345. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4db7u4$op8@newsbf02.news.aol.com>
Source record: 108162

<< The authors of the autotuner were a bit concerned since they didn't want 2 years of work to be stolen by another company and their code out to use in another "like product". >>

That statement indicates data was withheld just to protect "two years of work" that went into the software.

So which reason was it really? Was data accidently left out by QST as a mere oversight or space saving gesture, or did the author request it be left out as a favor to protect "two years" of work?

This is begining to sound like someone danced around the truth a bit in the earlier replies.

Tom

346. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4dbc7k$qe4@crash.microserve.net>
Source record: 108163

Ed Hare <ehare@arrl.org> wrote:

>Would it really be right for us to see a really neat construction-
>project article and decide that we were not going to share it with
>anyone because a relative handful of people who want to program their
>own IC think that we should not?

As you know, I agree with QST's decision to publish articles such as this. It's also my opinion that most of the objections have either been the result of a subjective (emotional) response or are based on a flawed analogy. Few valid points have been made against this specific article or the specific, proprietary part it requires.

That said, I do have a concern for articles like this, namely the possibility that the part will be unavailable in two or three years. Unlike an obsolete tube or IC, there may be no commonly-available substitution, and this in itself undermines the value of the article. In effect, the article's "shelf-life" is determined by the length of time the author is willing and/or able to provide the part, and anyone whishing to duplicate it a few years after publication may be out of luck.

In addition, given that the authors of such articles are not (in most cases) commercial entities with an established history of product availability, there is significant risk to anyone who undertakes the project. Should the proprietary part later fail and a replacement be unavailable, the equipment becomes useless.

To circumvent this situation, perhaps QST should refuse to publish articles if the author is unwilling to provide the source code to ARRL for safekeeping. Even if the software is copyrighted, the author could give permission to distribute copies at some point in the future. Perhaps the exact time could be determined on the basis of the availability of the programmed part (or a functionally-identical equivalent) directly from the author. A clause could also be inserted that requires the price to remain at the same level as when the part was originally offered, excepting only increases in hardware (IC) costs to the author.

Such an arrangement between author and publisher would go a long ways towards protecting the intrinsic value of the article, as well as the investment of those who construct the project.

My apologies if the preceding points have already been made; I missed a few of the posts recently.

73,
Jack WB3U

347. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan14.182921.12217@ke4zv.atl.ga.us>
Source record: 108164

In article <4d7dvb$m8b@detroit.freenet.org> am024@detroit.freenet.org (Robert Thomas Jackson) writes:
>
>I seem to remeber a few posts a while back about being able to
>tune in SSB stations with an AM radio (SW) by just running a
>477 khz oscillator near it.... Is this true? Do crystals run
>down that low? If so I could just build a VXO in that area and
>be able to adjust it... Has anyone made this work?

You *can* do this, though actually since the IF is 455 kHz, you'd want your oscillator to operate on either 453 or 457 kHz depending on whether you wanted to receive USB or LSB. There are serious problems with this approach, however. The AM set uses an *envelope* detector while a true SSB receiver will use a *product* detector. With an envelope detector, you have to be *very* careful to have just the right carrier reinsertion amplitude or severe distortion will result. Since the required carrier amplitude varies with the signal strength of the signals received, you need some way to continuously vary this, and that's neither simple nor easy.

A much better approach is to build a product detector and go in and add it to the AM receiver in place of the envelope detector (a switch could be used to select the proper detector depending on whether you want to receive AM or SSB). A product detector is not a complex circuit, and can be built up on a small board that can be tucked inside the radio.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

348. XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: daustin@community.net
Message-ID: <4dbk6s$h0q@oracle.damerica.net>
Source record: 108165

Need to convert XLR (cannon) balanced inputs to standard line input. Do I just put one end to ground and use the other? XLR is a balanced audio input (for lower noise) Not sure of Z in ckt.

Thanks

Dave

349. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4d9nnl$fe8@aldebaran.sct.fr>
Source record: 108166
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

myers@West.Sun.COM (Dana Myers) wrote:

Hi Dana,
>The NE602 is very popular, with an on-board oscillator that can be
>bypassed.

I've heard that this chip was stopped. May I'm wrong ?
Have a nice day
Happy
New opworld@worldnet.fr
Year

350. Convert UHF Micor to Ham Bands and 9K6

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: Bill Risch <brisch@skypoint.com>
Message-ID: <4db73a$61d@stratus.skypoint.net>
Source record: 108167

I need info on how to convert UHF Micors to the 440 ham band. I
also need related info on converting to run 9K6. I saw a post
not too long ago but I failed to keep in and lost the name of
the party that had the info.
Thanks in advance, Bill K0MVH brisch@skypoint.com

351. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <821626298snz@lfheller.demon.co.uk>
Source record: 108168
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Elantec are advertising the EL4083C current-mode 4-quadrant multiplier which goes up to 200 MHz. It's in an 8-pin DIL package and looks quite easy to use. It should nake a good substitute for the Motorola devices. Samples are available from Elantec on (800) 333-6314 ext 311.

I think that the NE602 has been replaced by the NE612.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

352. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: ke3mf@atc.ameritel.net
Message-ID: <1e7cc$2171c.2ba@NEWS>
Source record: 108169

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

Snip

>Firmware is virtual circuitry. Withholding information about the
>firmware in a construction article is no different from withholding
>schematic diagrams. Would you support paying for and publishing
>a construction article that required the reader to buy the schematic
>separately from the article author? (I might, that's essentially
>what you're doing when you use any commercial IC. If you want the
>internals, you have to buy the manufacturer's data book.) But more
>to the point here, should you print a construction article where you
>can't obtain the schematic, even from the author? I think not, that's
>like the magic antenna tuner which was just a glob of expoxy hiding
>a power resistor that QST correctly X-rayed and brought to public
>attention a number of years ago. (Note: that's not a totally bogus
>idea in certain special circumstances, but the way it was presented
>bordered on fraud because there was no way to determine how it worked
>thanks to the deliberately hidden internals.)

>Gary
>--
>Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
>534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
>Lawrenceville, GA 30244 | |

The authors of the autotuner were a bit concerned since they didn't
want 2 years of work to be stolen by another company and their code
put to use in another "like product".

A few other points:

- The code is of no use to 90 percent of those who build the tuner,
Assembly is not easy to sit down and understand.

- You must have some way to burn the chip, the tuner doesn't have
RS-232 capibility.

- Dwayne will release the code for an SASE and a disk, call him!

- The ARRL did not print the flow chart of the software, that was
their choice. (My quess is it wouldn't mean much to the majority of
the readers)

I asked Dwayne to give me the .s19 file for posting here. It is the
Hex dump to the chip so if you have a burner, you can upload it to the

chip if you want to purchase it or already have one. I think he will do it, please post or E-mail if you want it (free, of course).

In case anyone cares, I did the initial relay testing and final product testing... for no compensation.

Great comments, everyone!

73,

de Glenn, KE3MF

353. Re: Question: RF Speech Processing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4db808$oq7@newsbf02.news.aol.com>
Source record: 108170

In article <4daqvq$gi6@proffa.cc.tut.fi>, k23690@proffa.cc.tut.fi
(Kein{nen Paul) writes:

>If we set the clipping at +/- 1/2 the peak amplitude in each channel,
>we get square waves with half the amplitude of the pure tones (f and 2
f).
>Bandlimiting the channels, the harmonics of the square wave are filtered
>out and we get sine waves at 1/2 the original amplitude. Summing these
>signals, we get the original signal envelope which is attenuated by 6 dB.
>Since the envolope is still the same, there is not an improvement in
>peak-to-average ratio compared to the case of no clipping.
>
>

No, what we get is a signal that has all the levels at different
frequencies limited at the same threshold, exactly what we try to do in
any processor!

The result is instantaneous "compression" or limiting of each frequency
sub-band to a predetermined level. It can then be re-mixed at the level we
desire without the addition of unwanted intermodulation products or
harmonics of the original input. We have simply removed all amplitude
variations in individual sub-bands and re-combined them at the ratios that
improve communications without adding unwanted byproducts.

The improvement is very real on speech, but not on a two tone test.

73 Tom

354. Re: Electonic flash unit problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: jrhodes@teleport.com
Message-ID: <4d9jlu$mm7@maureen.teleport.com>
Source record: 108171
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <1996Jan12.171333.1@ttd.teradyne.com>,
rice@ttd.teradyne.com (John Rice) wrote:
>In article <4d3541$nej@olivea.ATC.Olivetti.Com>,
archive@flash.ATC.Olivetti.Com (DCG Mktg Docmnt (Ivrea)) writes:
>>
>> I have an electronic flash unit purchased in 1970. After being unused for
>> many years, I find that now it does not function correctly. The lamp is
>> powered by 250 Vcc and the flash is triggered by a pulse. I have
>> checked the capacitor, which is in good condition. Has the lamp failed
>> through again?? Does anybody have the answer?

I've had trouble with the trigger transformer in several (cheap) flash units.
Tthe transformer is supposed to develop an 1-2 kv pulse. I think the failure
mode is an internal short (probably between layers of the secondary).

A cheap (often free) replacement can be had from your local color print
processor. Those throw-away cameras have complete flash units. Often, you
can get a couple of cameras just for the asking. The trigger transformer is
easy to identify.

John D. Rhodes - AA7HL
Vancouver, WA
jrhodes@teleport.com

355. 10ghz Audio link

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: n0nas@hamlink.mn.org
Message-ID: <821642510.AA04980@hamlink.mn.org>
Source record: 108172

The basic method of using a 10 GHz motion detector or Gunnplexor for a full duplex audio link is quite simple. All you really do is set up the first Gunnplexor in the ham band and apply a small amount of audio to the voltage regulator feeding the Gunn diode. This causes the 10 GHz oscillator to be frequency modulated by the audio signal. Now at the other end, you connect a wideband receiver to the detector diode of the other Gunnplexor and tune the second Gunn oscillator to be higher or lower in frequency by whatever the receiver frequency is. For amateur 10 GHz voice, this is usually 30 MHz and about 75 KHz bandwidth. This is 1/2 of the full duplex link. To go back the other way you voice modulate the second Gunn oscillator and add another wideband FM receiver at the same 30 MHz receive offset to the detector diode of the first Gunn unit. You finish off the link by generating an AFC output from one receiver to adjust the static regulated voltage on its Gunn oscillator. Then, whenever the first unit drifts in frequency, the second unit will follow always keeping 30 MHz away. NOTE: there is nothing hard and fast about the IF frequency you use, just that ALL the stations must use the same IF in order to communicate.

The limitations on this technique are primarily the low power from the Gunn oscillators, their wide frequency variation with temperature, and poor range due in part to the wideband FM modulation. Various articles have suggested anything up to 200 mile range using SSB and 50 to 100 mw with a dish on 10 GHz. The FM voice system would do well to get 10 miles with a 10 mw motion detector transmitter. The ARRL article will basically do the voice link if you drop the data specific stuff. If you want more info on using Gunnplexors and motion detectors for 10 GHz, the most recent info will be in the "Above and Beyond" column in 73 magazine during the last 5 years. And before that there were numerous articles about 10 GHz in Ham Radio and 73 Magazine in the 1980's.

When you go looking for equipment, the best parts to find are the Microwave Associates Gunnplexor units. They were designed for communications and have a modulator diode along with the usual oscillator and detector diodes. This makes them more stable and easier to modulate but they generally sell for over $200. The cheap option is an old microwave motion detector from an alarm system. The 10 GHz section is an aluminum block about 1.2" by 1.8" by 2.5" with a feedhorn or square flange on one end. These only have the oscillator diode and detector diode. Modulation must be floated on the static operating voltage of the oscillator diode. They usually run about 10 mw output and cost under $25. Whatever model you choose it should have a standard waveguide flange so you can connect to different horns or mount it in front of a parabolic dish for maximum range. If you are really just playing around, some old X-band radar detectors can be stripped

sometimes for this type of project but strictly as a backyard receiver project.

I did some brain storming about this a few years ago. You might want to look for some old surplus low band FM receivers in the 30-40 MHz band. Many of them have wideband (30 KHz) IFs and all have excellent sensitivity. Every pair you find on one frequency can be another link. Lets say you find receiver pairs for 31, 32, 33, and 34 MHz. Build one site as the central site with four receivers and four separate remote sites each with one receiver. The remote sites are each tuned slightly different from the central site and is AGCed to lock to the central site. At the central site, add a low noise preamp to split the signal for all four receivers and you should have four working remote receiver voice links. I always thought this would be a cute repeater receiver linking system but never took it anywhere.

Have fun with 10 GHZ. 73's.

Doug Reed, N0NAS email: n0nas@hamlink.mn.org

* SLMR 2.1a * Unable to locate Coffee -- Operator Halted!

356. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-14 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDL71G0.4D7@netcom.com>
Source record: 108173

daustin@community.net (Dave Austin) writes:

>Need to convert XLR (cannon) balanced inputs to standard line input. Do
>I just put one end to ground and use the other? XLR is a balanced audio
>input (for lower noise) Not sure of Z in ckt.

With any transformer-input circuit (many pro balanced ins still use transformers), you should indeed ground one side of the balanced line, and feed your unbalanced hot side to the other balanced pin. Usually for microphones, the phasing standard is "pin 2 high, pin 3 low".

Surprisingly, you may not actually have a balanced input even with XLR connectors -- I have a Yamaha board at work like this where the balanced transformers are an *option*, and not installed.

If it's NOT a transformer input, you should do what gives you best results: just feed from ground to one of the balanced legs. In this case, there's an active differential input, and grounding one side will do you no good in some cases.

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

357. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4dc80s$4l5@aldebaran.sct.fr>
Source record: 108075

myers@West.Sun.COM (Dana Myers) wrote:

>One technique I've used and seen used elsewhere to reduce the noise
>on a power line is to insert an emitter follower into the
>power line. ...

Hi Dana,
Use 723 reference and connect a power integrated amplifier like TDA
2030A You will get low noise and low internal resistance (last stage
use push pull versus emetter in your scheme). You will have a better
transcient reponse.
Have a nice day
Happy
New opworld@worldnet.fr
Year

358. Modutec AC panel freq meter - available?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: salomon@saturn.caps.maine.edu
Message-ID: <4ddq22$123k@sol.caps.maine.edu>
Source record: 108076
Cross-posted to: alt.engineering.electrical,sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I am looking for a panel meter for measuring AC line frequency for a generator. Years ago, Simpson and Triplett made vibrating reed meters, and more recently, I have seen an analog panel meter made by Modutec (but I don't know how old it was).

Any one have any suggestions where to find one, or have suggestions for a quick and dirty frequency counter with a difital display?

Responses to my address below much appreciated.
--
Will Salomon
salomon@saturn.caps.maine.edu

359. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_821740285@rtfm.mit.edu>
Source record: 108077
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

360. Circut req'd - telephone line in use indicator.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: ai657@freenet.toronto.on.ca
Message-ID: <DL8H7r.29r.0.sheppard@torfree.net>
Source record: 108078

I know it is a litle off topic but here goes. I need a circut diagram for a
"telephone line in use indicator". We have three modems on a single
telephone line here
and we are constantly cutting each other off. I guess it would have an
LED to indicate
line usage and would be plugged into the phone jack of our modems. I have
heard that
manufactured units exist but can't seem to find them here in Toronto.
Any help would be most appreciated.
Please e-mail. Thanks.
Paul Egan VE3GFY

361. Re: Funky bias setup in VHF linear amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: jdc@cci.com
Message-ID: <DL8I5o.59z@sunsrvr6.cci.com>
Source record: 108079

Mystery solved: While perusing ATV Quarterly, I saw a couple of notes on
power amps. The network in question is used to suppress low frequency
oscillation.

73..Jim N2VNO

In article <4ctkjp$pop@newsbf02.news.aol.com>,
W8JI Tom <w8jitom@aol.com> wrote:
>Hi Jim,
>In article <DKvJIL.67F@sunsrvr6.cci.com>, jdc@cci.com (James D. Cronin)
>writes:
>>The schematic for a Mirage 2-meter linear amp shows a bias arrangement
>>that looks peculiar.
>>There is the usual rectifier diode from transistor base to ground
>>with a fixed resistor and trimmer potentiometer in parallel. This part
>>looks normal.
>>What was odd was the bias supply: Instead of being fed by a DC voltage
>>it was connected to the transistors collector through (here's the wierd
>>part) a series resistor, capacitor and choke.
>
>Don't depend on the schematic to be absolutely correct. What Mirage amp is
>it? I'll look at one and tell you how the circuit works.
>
>73 Tom
>
>
>>
>>How is this supposed to work? Are they siphoning off some of the output
>>signal and letting the parallel diode rectify it?
>>
>>73..Jim N2VNO
>

362. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan15.152809.16615@ke4zv.atl.ga.us>
Source record: 108080

In article <4danp1$kkc@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>Gary,
>Oppps. Your right, I misread your response.
>>Lets look at an IS-MPT-200 MOV.
>Who's component is that?

That's a Polyphaser part number, I don't know who makes it for them.
I expect it's GE.

>>It has a turn on voltage of 200 volts, a clamping time of 2 nS for a 1
>kV/nS IEEE >820/20 waveform, and has an effective "on" resistance of
>6.15e-6 ohm for the duration >of the IEEE 820/20 waveform (2 uS peak, 20
>uS tail).
>
>What is the peak voltage of the IEEE waveform? A simple low pass filter
>could do a great job on a sharp pulse like that. That's why I am mainly
>concerned with longer duration clamping ability. The engineering
>guidelines I must follow require not duplicating functions without cost
>justified benefits.

The IEEE 820/20 waveform looks like a 2 uS sinc^2 pulse with an asymtotic
decay tail over 20 uS. The pulse rises at 1 kV/nS for 1 uS, so it peaks
at 1 Megavolt (no load). Of course depending on the energy of the pulse
in joules, and the shunt impedance, it won't necessarily make it to 1 MV
into a load. This pulse is designed to mimic a nuclear EMP. The IEEE 587
pulse is designed to mimic a lightning surge transient and has a somewhat
slower risetime and a negative "ringing" component at 80% of peak positive
amplitude following the initial 2 uS sinc^2 pulse, and trails off in
typical damped wave fashion over a longer interval. The IEEE 820/20 pulse
is the more stringent test, and is what's typically used to qualify surge
suppressors. If the suppressor can handle it, the IEEE 587 pulse should
be child's play (but that's not always true, that negative "ringing"
component can stymie some suppressors).

And, there's yet another IEEE pulse shape, the IEEE 8/20 pulse, which
has a 8 uS rise and a 20 uS decay in essentially a triangular form.
(I may have inadvertently mixed this up with the IEEE 820/20 pulse
in an earlier post.) This pulse may be seen downstream of certain
types of transformers or entrance networks. Typically it will have
a peak voltage of only 6 kV, but will have essentially the same energy
as the IEEE 587 pulse.

>Without MOV's in equipment, and only using simple low pass filters (that
>also function as RFI filters), I have never seen a transient induced
>rectifier or component transient induced failure. But then all of my line
>operated equipment designs use transformers. I'm sure if they were line

>operated switching supplies a zener or MOV clamp would be a worthwhile
>addition.

I can show you the power supply choke out of a Harris 100 kW TV transmitter
that's charcoal thanks to a lightning transient that jumped the insulation
and established an ionized path. The bulk of the damage was done by stepped
up line current, of course, following the path established by the transient,
but the transient was the "ignition" source. If there had been adequate
suppression on the 480 line, the transient would never have been high
enough to start the ionization path that led to the failure.

Now you're probably right that a lowpass filter would have snubbed
the peak voltage, but it wouldn't have damped the energy at all,
just spread it out into a "ringing" voltage at the lowpass cutoff.
As I'm sure you know, that can have unexpected and undesired
results in a high energy circuit too.

>>The steady state "on" resistance is around 20 ohms, but if the overload
>is sustained >so that the steady state is achieved, the MOV will
>self-destruct in about
>>3/4 second. It only has a transient capability of 160 joules.
>
>The 50 / 60 Hz power transformers I work with do not pass pulses (in the
>differential mode) of 1 mS very well (if at all). They generally reach
>core saturation at around 1-1/2 to 2 times the design voltage. Even if I
>tried to use them as a pulse transformer with a stiffly sourced 1 kV 20 mS
>pulse, the transformer would be almost non-responsive to the pulse. The
>only danger is the common mode voltage causing the transformer to arc, but
>the line bypasses and terminal strips would fail first.

As I noted, core saturation plays no part with 1 kV/nS pulses. They
capacitively couple between the transformer windings, unless you
use a ferroresonant or Faraday shielded transformer of course. Note
that's *nanosecond* not *millisecond*. Transients almost by definition
are *very* fast pulses. They usually don't pack a lot of energy (which
is good or little bitty MOVs would be of no value), and don't do the
damage themselves in line operated equipment. What they do is serve as
junction puncturers or "ignition" sources. It's the ordinary line current
that then does the damage by following the path created by the transient.

>In article <4d96v0$rkm@ixnews8.ix.netcom.com>, ionguy@ix.netcom.com(Rich_S
>) writes:
>>Using a transient generator and scope, he had good luck using MOV's if
>>they were across all three inputs (line, neutral, and ground) and
>>preferably followed by a low-pass filter network. The LPF helped "slow
>>down" the pulse while the MOV went into conduction. All of this
>>preceded the transformer primary.
>>"Transorbs" are much faster but are also less robust and more expensive.
>
>I'm not familiar with Transorbs, but I am always looking for ways to
>improve protection of high power transformer-operated equipment. Who is
>the manufacturer of transorbs?

Transorbs are silicon devices, think of them as *very* fast zeners. An ordinary zener doesn't have nearly fast enough response to be of any use for transient suppression (turn on is typically in the 40 uS range, the transient is gone by then). Transorb is someone's trademark name (I don't recall whose at the moment). You'll find generic examples of these devices in the 1N62XX number range. For example, the 1N6296A is a 110 working volt protector with a 10A surge rating (1.5 joule), and a turn on threshold of 152 volts. Turn on is in the 400-500 *picosecond* range. (Fast buggers.)

Transorbs have the fastest response, MOVs are next, and gas tubes last. But the order of robustness and energy handling is the reverse. Gas tubes can handle surge of very high energy while MOVs and Transorbs can handle much less. For very very high energy surge, silicon carbide suppressors can handle the most, but they are one-shot devices and self-destruct (explosively, it's quite a sight) when they protect. They're the best thing to use right at the facility entrance (and the cheapest too). For most transients, they won't fire, and you still need gas tubes, MOVs, or Transorbs downstream, but if the granddaddy direct strike occurs, the silicon carbide protector will fire, and probably save your plant.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

363. RE: Nuts and Volts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: socci@bns101.bng.ge.COM
Message-ID: <9601151212.AA16326@bns101.bng.ge.com>
Source record: 108081

I believe the magazine is called "Nuts and Volts", not "Nuts and Bolts"
It's basicallly a classified ad magazine with a bunch of technical articles
in it. I get it once in a while myself. The articles are usually pretty good.
They have "build it yourself" as well as the "look what we did" articles.
This month I read one about radio controlled robots. One key feature is that
if you are looking for a piece of ham equipment, then someone in the classifieds
is selling it.

V


```
_____________________________________________________________________
/ Vince Socci / Lockheed Martin Control Systems /|
/============================/==================================/ /
/ 600 Main Street / Systems Engineer / /
/ Johnson City, New York / Advanced Controls Engineering / /
/ 13790-1888 / Email: socci@bns101.bng.ge.com / /
/ / Callsign: KB2UXU / /
/ Tel (607) 770-2828 / Marcall Tel: 8*255-2828 / /
/ Fax (607) 770-2213 / Marcall Fax: 8*255-2213 / /
/____________________________/__________________________________/ /
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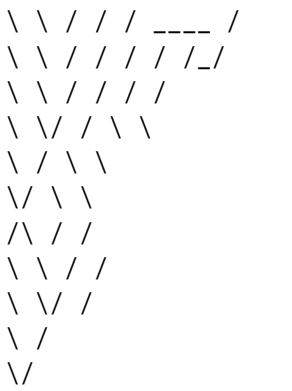

364. Re: Xpert Needed:Zener Diodes --- Can you make what you dont have?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDL8KLp.6L0@netcom.com>
Source record: 108082

in <4d4ik0$po5@newsbf02.news.aol.com>, PFZouave wrote:
: My problem is this: The processor is spec'd to work down to 2.5 volts. If
: I add a safety margin and say the minimum before reset should be 3.o
: volts, 3 - 0.7 leaves me with a required zener voltage of 2.3 volts. I
: have several catalogs laying around here, and can't find any zeners less
: than 3 volts.

The TL431 shunt regulator IC (also called a programmable zener) is
good down to 2.5 volts. It doesn't like much parallel capacitance,
but otherwise looks like a zener.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

365. Re: ne 602/612

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: StaZyr@Lin.FOA.SE
Message-ID: <StaZyr-1501961839510001@stazyr.lin.foa.se>
Source record: 108083

In article <3lau5n7$2i8_001@pcm.co.za>, workshop@pcm.co.za (Workshop) wrote:

> Can anyone tell me if there is a site on the net where I can
> get application notes on the ne 602 or 612 chips.They are not in any of
> the data books that I have got.
>
> You can e-mail me at workshop@pcm.co.za , or post to this group.

> thanks

> Robin

Well, if you can not afford to buy Philips IC17 "RF/Wireless
Communications Data Handbook" take a look at:
http://www.semiconductors.philips.com/ps/philips5.html#Search
Although containing much information the site is only a complement to the
handbook.

73 de SM7EIR
Stan

366. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan15.154210.16822@ke4zv.atl.ga.us>
Source record: 108084

In article <4dbk6s$h0q@oracle.damerica.net> daustin@community.net (Dave Austin) writes:
>Need to convert XLR (cannon) balanced inputs to standard line input. Do I just put
>one end to ground and use the other? XLR is a balanced audio input (for lower noise)
>Not sure of Z in ckt.

Balanced XLR *is* standard, it's those funny phone jacks that are
non-standard. :-)

For microphone level (-55 dbm), the impedance is 150 ohms. For line
level (used to be +8 dbm but the industry is switching to +4 dbm)
the impedance is 600 ohms.

You don't want to destroy the system balance by grounding one of
the pair. You'll have hum pickup and other nasties. Standard
transformer adaptors are available, XLR on one end, transformer
in the middle, and 1/4 inch phone plug on the other. (Or sexed
vice versa for use on the other end of the line.)

If you're going into a high impedance unbalanced input, there are
adaptors with a suitable step up ratio in the transformer, otherwise
the transformer is just 1:1. It's a balun!

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

367. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan15.161837.17011@ke4zv.atl.ga.us>
Source record: 108085

In article <rohrwerkDL71G0.4D7@netcom.com> rohrwerk@netcom.com (John Seboldt) writes:
>Surprisingly, you may not actually have a balanced input even with XLR
>connectors -- I have a Yamaha board at work like this where the balanced
>transformers are an *option*, and not installed.
>
>If it's NOT a transformer input, you should do what gives you best
>results: just feed from ground to one of the balanced legs. In this
>case, there's an active differential input, and grounding one side will
>do you no good in some cases.

That's because the differential pair input *is* balanced. The only
reason you'd add the optional transformers in this case would be
if you needed to break the DC continuity between the board and a
distant piece of equipment that may not share common power (otherwise
you'd get a nasty ground loop), or because the distant equipment may
need phantom power fed down the cable. Unbalanced inputs have one side
grounded *internally*, balanced inputs don't. The presence or absence
of a transformer doesn't necessarily determine whether you're dealing
with balanced or unbalanced audio.

Pin 1 of the XLR is *shield* ground. You may not want to connect this
at both ends, even in balanced systems, because it can cause a frame
to frame ground loop. Grounding it only at the console end (or better
at the patch field) is usually best.

Pins 2 and 3 are the hot balanced pair, which is which doesn't matter
except for phasing. Traditionally, pin 2 gets the red wire and pin 3
gets the black, but as long as you wire both ends the same, it won't
matter (until somebody else has to come along later and repair one
end, then he'll probably wire it standard and you'll have a phase
reversal).

With the 1/4 inch plugs, the tip is always hot and the ring is
ground (which doubles as the shield connection). Obviously you
can't isolate ground with this type connection, and ground loops,
hum pickup, and RF pickup (at a radio station) will be commmon
and infuriating problems. The solution, of course, is to insert
a 1:1 transformer at the unbalanced end *before* the equipment
connection. This offers DC isolation, breaking the ground loop
and allowing you to single point the shield.

These *baluns* are standard off the shelf items from any professional
audio supplier.

Gary
--

Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

368. ne602 direct conv.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: eeg132@news.salford.ac.uk
Message-ID: <eeg132.36.0@news.salford.ac.uk>
Source record: 108086

Hi, I'm thinking of building a direct conversion Rx using the ne602 dual balanced mod. and a VCO made from shmitt logic (outputs squarewaves).

The resistive load from the ne602's output will feed a high gain opamp (non-inv.) amplifier with a preset rolloff of -20db/dec and a -3db freq. of around 1 khz (i.e. any 741 set for a gain of about 1000), this in turn is followed by a small poweropamp output stage (gain of about 100).

The questions I would like answered are:

Can such a device detect FM as well as SSB and CW?

Would the squarewave VCO cause too many harmonic problems in the mixer?

Is -20db/dec sufficient to filter out any rf left at the output of the mixer?

I intend to vary the frequency from about 1.5Mhz to 20MHz, any ideas on the best frequencies to monitor with such a rig?

Please send any ideas / comments to my e-mail address (post also if you wish).

Thanks,

A.Vilches@eee.salford.ac.uk

369. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: tmathis@ix.netcom.com
Message-ID: <4ddb37$h1s@ixnews8.ix.netcom.com>
Source record: 108087

I have heard that the the effect of each overvoltage incident is cumulative and the primary failure mode is short circuiting of the the MOV.

Is this true?

Tim

370. How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: butte.wbst129@xerox.com
Message-ID: <NEWTNews.821723304.9289.Pbutterf@butter-pc.ess.mc.xerox.com>
Source record: 108088

I am interested in increasing the battery capacity in my pick up truck to permit it to run equipment for a longer period of time without the engine running. Specifically, I would like to be able to leave my remote controllable dual band rig on as a cross band repeater without coming back to a dead battery. I've considered the following options, but would like comment, feedback and suggestions.

1.
Install a deep-cycle (e.g. marine) battery in place of the existing one. Would select one that fit in the available space and still had the "cold-cranking amps" rating of the existing one.

2.
Install a second conventional battery in parallel with the existing one. Don't know what kind of balancing might have to be done here.

3.
Install a second battery with a manual switch. High Current switch=$$?. Would it have to be at the battery instead of near the dashboard?

4.
Power the rig from a separate lead-acid or gel-cell with trickle charger powered by an ignition-switched circuit. (I already have gel cells with about 20 amp-hours of capacity) Don't know how to construct this circuit to limit current if battery were discharged. (Yeah, I'm ignorant, but learning...)

Thoughts anyone?

Regards,
Paul
KB2TCG

371. Re: Need: Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4ddnut$kue@news.iii.net>
Source record: 108089

You need to list what currents the secondaries need to be.

Tom

372. Wanted: Repair Tech for SINGER FM-10CS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: webb@ma.ultranet.com
Message-ID: <4dcmas$jld@caesar.ultra.net>
Source record: 108090

If you know what a SINGER FM-10CS is, and you have repaired them before, I would like to speak with you. I have one that is need of some care. It is relatively recently calibrated, but has developed problems. I would like to use this gear in amateur work.

E-mail to webb@ultranet.com

-Spencer
WA2BSR

373. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: ke3mf@atc.ameritel.net
Message-ID: <1f7cc$12f11.27a@NEWS>
Source record: 108091

w8jitom@aol.com (W8JI Tom) wrote:

<snip>

>So which reason was it really? Was data accidently left out by QST as a
>mere oversight or space saving gesture, or did the author request it be
>left out as a favor to protect "two years" of work?

The source code wasn't submitted to QST, the software flow chart was,
and they chose not to publish that. There was no accident. QST, being
the fine journal that it is, wouldn't practice the ethics implied.
They bench tested the unit to ensure it did what was claimed. They
aren't going to stake their reputation on something as trivial.

>This is begining to sound like someone danced around the truth a bit in
>the earlier replies.

I fail to understand the statement. Dwayne and Gene did a lot of
pondering on the release of the source before they submitted the
article. They (I can't speak for QST) didn't know peoples feelings on
the source code release. That is why they are releasing the code...
because people want it. All the comments posted and E-Mailed had a
voice and it was listened to. I never know if I did something right
or wrong unless there is feedback. Feedback is a good thing.

There is no dancing, right, or wrong to the situation. What ever
their reasons, they listen to comments. If someone doesn't like the
article, turn the page. Any future articles will have source code
(probley downloadable from the ARRL board).

Thank you and everyone for the great comments!

73,

Glenn

374. Re: How make a (T/R Swich) ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4ddvh1$mbq@mksrv1.dseg.ti.com>
Source record: 108092

The TH-78A is a 2m / 440 dual band handie-talkie.

375. Re: ne 602/612

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: salinas@uslink.net
Message-ID: <4dejup$7qc@link2.uslink.net>
Source record: 108093

workshop@pcm.co.za (Workshop) wrote:

>Can anyone tell me if there is a site on the net where I can
>get application notes on the ne 602 or 612 chips.They are not in any of
>the data books that I have got.

>You can e-mail me at workshop@pcm.co.za , or post to this group.

>thanks

>Robin
Look in the ARRL handbook. My 95 has info on this chip.

Chris
N0TTW

376. Re: Xpert Needed:Zener Diodes --- Can you make what you dont have?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: dakeltie@ix.netcom.com
Message-ID: <4dejo1$s7s@cloner2.ix.netcom.com>
Source record: 108094

In <4d4pdu$bn@daffy.sb.west.net> mark@reson.com (qrk) writes:
>
>pfzouave@aol.com (PFZouave) wrote:
>
>>Question: Im looking at a reset circuit (suggested by Microchip, the
>>manufacturer of the 16C74 microcontroller) which is build around a
PNP
>>transistor, three resistors, and a zener diode. Basically, the zener
is
>>set up with a series resistor to form a voltage reference of sorts.
It
>>feeds the transistor, which in turn can activate the reset pin on the
>>processor. [stuff deleted]
>
>Your best bet for a reliable reset circuit is something like the Maxim
>MAX704T/S/R or the reset chip. The T/S/R suffix is the reset voltage
>(3.06, 2.91, 2.61 respectively). Don't use the plain MAX704, it
>resets at 4.65 volts. The one you describe has problems with temp
>drift and good reliable operation when conditions become marginal or
>you have a funky power supply during turn-on. Maxim and others have a
>whole bunch of microprocessor reset circuits which work better than
>any of the popular discrete designs. I think the cost is about $5.00
>each.
>
>
>
>-
>Mark Chun | mark@reson.com | Santa Barbara, CA
>

Another possible source for these types of circuits is:
Dallas Semiconductor
4350 Beltwood Pkwy. S.
Tel: 214-450-0400

Regards, Dale

377. New SWL Page?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: asperges@innotts.co.uk
Message-ID: <30fad386.17733826@news.innotts.co.uk>
Source record: 108095

Many readers from this (and related) groups have already visited the radio amateur pages below:

http://www.innotts.co.uk/~asperges/

and left about 250 messages for me since December '95. Thanks. I have replied to all of them individually.

I'm thinking about making a new page for SWLs, who don't seem to be catered for quite so well elsewhere, but I should like some feedback before doing so: should there be FAQs? links? Should there be pointers to schedules etc etc?. Should the style be same or different from the other pages?

If you have some ideas for SWLs, please e-mail me from the pages.

I am still collecting links for the "Friends on the net" for other amateurs with home pages they would like networked.

73 de

Jeremy G4NJH
asperges@innotts.co.uk
[Homepage: http://www.innotts.co.uk/~asperges/]

378. Re: Xpert Needed:Zener Diodes --- Can you make what you dont have?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4demi7$f0q@hpcvsnz.cv.hp.com>
Source record: 108096

Mark Zenier (mzenier@netcom.com) wrote:

: The TL431 shunt regulator IC (also called a programmable zener) is
: good down to 2.5 volts. It doesn't like much parallel capacitance,
: but otherwise looks like a zener.

I recently discovered the "It doesn't like much parallel capacitance"
thing, but it's really that it doesn't like a moderate amount of
capacitance: it's stable for large capacitance (4.7uF and above)
and small (4.7nF and below) but potentially not in between. The region of
stability is shown in the TI databook. It's least stable for lowest
voltage (Vka = Vref) and low currents (the capacitances given above), and
unstable at 15 volts only at low current from about .06uF to 1uF.
Note that type of capacitor and lead lengths (parasitic inductance and
resistance) may affect the region of stability.

--
Cheers,
Tom
tomb@lsid.hp.com

379. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: daustin@community.net
Message-ID: <4dcrsg$9fk@oracle.damerica.net>
Source record: 108097

>With any transformer-input circuit (many pro balanced ins still use
>transformers), you should indeed ground one side of the balanced line, and

cut cut

>
do you no good in some cases.
>
>
>: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
>: K0JD... Minneapolis, MN / if it ain't got that swing!
>: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
>> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <
>

Thanks. I found out much about XLR in searching the net. Thanks for your
info. Found some good ref material form RANE company on the net.

I have tried some things and below is what works ok. Xfmrs are not needed for
high level stuff. Just mikes and other low level devices.
The item under repair is a Sony DAT deck. 2300. Now I some in and outs to
start my repair.

Thanks much.
Dave
KD6BYV

380. Re: XLR balanced to non ckt. is it easy ?? IT IS.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: daustin@community.net
Message-ID: <4dcs50$9fk@oracle.damerica.net>
Source record: 108098

Woops , forgot to list what works.

RCA unbalanced output (high level, standard stereo stuff)
to XLR 3 wire balanced input device. (DAT deck in this case)

RCA XLR
center pin ------------------------ pin 2
outside pin ----------------------- pin 3
---shield of wire -- pin 1

Dave
KD6BYV

381. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerkDL8M8A.B1D@netcom.com>
Source record: 108099

gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>For microphone level (-55 dbm), the impedance is 150 ohms. For line
>level (used to be +8 dbm but the industry is switching to +4 dbm)
>the impedance is 600 ohms.

Not quite, Gary... in the old days it *was* a matched 600 ohm ideal...
today it's "lowest possible source impedance, highest possible load
impedance" for balanced line level. Leads to a lot of confusion when
defining dBm in audio practice, to say the least.

But this ain't ham homebrew, unless we're talking' interfacing old radio
consoles to AM transmitters modified for 160 meters ...

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
> http://www.lehigh.edu/lists/qrp-l/k0jd/index.html <

382. New Meter Faces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: "Nancy A. Sims" <nasfred@interserf.net>
Message-ID: <30FB54EA.7C40@interserf.net>
Source record: 108100

Need software to make new meter faces. Have Power Point, etc., but can't seem to get the gradient lines perpendicular to the curved scale line. Don't want to do a free-hand, but would like a machine generated scale.

Please send E mail to nasfred@interserf.net

383. Re: ? Vaacuum Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4de2oc$1c9@newsbf02.news.aol.com>
Source record: 108101

In article <30FAE357@SmtpGate.Oen1.Oen.Siemens.De>,
guenter.koellner@oen.siemens.DE (Koellner, Guenter) writes:

>Are they tuned with pressing the axis or rotating it? If rotating, what
is
>the roation angle and what force has to be applied? Much more than a
>standard
>capacitor?
>
>Thanks for your answer!
>
>vy 73, Guenter,

Hi Guenter,

They are tuned by pulling (about 1/2 to 2 inches travel usually, depending on the size) the axis against the suction of the vacuum, or by rotating a screw shaft (5 to twenty turns, usually) that converts the motion to the pull required.

The capacitors are internally like a series of alternating concentric cylinders. One connects to a bellows that allows movement while sealing the vacuum. It telescopes in and out to mesh and un-mesh. There are no friction contacts, and the internal leads are short and wide. So Q is very good.

73 Tom

384. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: miker@nrv.net
Message-ID: <4de4q9$u1t@kirk.nrv.net>
Source record: 108102

In article <4dbk6s$h0q@oracle.damerica.net>, daustin@community.net says...
>
>Need to convert XLR (cannon) balanced inputs to standard line input. Do I just put
>one end to ground and use the other? XLR is a balanced audio input (for lower noise)
>Not sure of Z in ckt.
>
>Thanks
>
>Dave

I use the Henry Matchbox that converts it both ways although you can build one quite easy with opamps.

385. Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: rreames@ix.netcom.com
Message-ID: <4de7gc$r2s@cloner3.netcom.com>
Source record: 108103

I need some info on converting a Cobra 148gtl to the 28.3-28.5
portion of 10 meters. I've picked up some stuff about modifying the
PLL (mb8719) circuit from some CB info but I'm not sure I trust it.
Has anyone done this successfully? Also need to modify the RIT for
both receive and xmit.

Randy
WA0TKO
rreames@ix.netcom.com

386. ne 602/612

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: workshop@pcm.co.za
Message-ID: <3lau5n7$2i8_001@pcm.co.za>
Source record: 108104

Can anyone tell me if there is a site on the net where I can
get application notes on the ne 602 or 612 chips.They are not in any of
the data books that I have got.

You can e-mail me at workshop@pcm.co.za , or post to this group.

thanks

Robin

387. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: Ian White <G3SEK@ifwtech.demon.co.uk>
Message-ID: <O7GgkMAPLg+wEwqW@ifwtech.demon.co.uk>
Source record: 108105

In article <1996Jan14.192821.12600@ke4zv.atl.ga.us>, Gary Coffman wrote:

>There's altogether too much fear among programmers (and inventors)
>that their ideas will be stolen. It happens rarely in practice, and
>when it does there are legal remedies.

I don't want to fuel paranoia among programmers, but it certainly has happened that hardware designs (including items such as PC board layouts) are blatantly offered on a commercial basis without the author's permission. See the earlier postings by N7WS.

Another example involved a hardware design by a VK amateur being ripped off and sold in the USA. By "ripped off" I mean that little or nothing was added to the original design, and the guy who'd done all the work never saw a red cent.

In most of these amateur radio cases, the amount of money involved is only a few hundreds of dollars, or at most a few thousand. So although the legal remedy exists in principle, it isn't possible in practice. Unfortunately some cynical commercial dealers are completely aware of this.

Even more serious is that after such an experience the victim is far less likely to publish anything again - and that is a loss to all of us.

>It's far more important for
>a QST technical article to teach by example than any fear that someone
>may somehow benefit from the author's work. The only way pirating of
>this code could benefit another company at the expense of the original
>author is if they incorporated it into a better product at a better
>price.

Sadly, that's no longer true. If a popular homebrew project is ripped off and marketed as a ready-built product, it will sell like hot cakes.

>

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

388. Looking for scope camera back

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: n1ddzrjc@aol.com
Message-ID: <4df4ck$g55@newsbf02.news.aol.com>
Source record: 108106

I used to see old scope cameras at Deerfield that had 4X5 "graflok" backs in them. There is a 4" X 5" opening and sometimes there is a ground glass in there.

I really just need the frame - the whole shebang would be good too.

Anyone got one kicking around?
Bob Crowley, Staff Inventor
AMBIT Corporation,
Sudbury MA

389. Follow up vehicle battery question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: butte.wbst129@xerox.com
Message-ID: <NEWTNews.821735611.16711.Pbutterf@butter-pc.ess.mc.xerox.com>
Source record: 108107

If I were to use separate gel cells to power a UHF/VHF rig in my vehicle, how might I shut off the power if the voltage dropped below the minimum level (11.7 volts) documented in the rig's specifications. Is there a simple solid state approach that might be taken? Or will a relay be involved?

Also, to charge a battery from the vehicle's 13.8V system, will a series resistor be sufficient to limit current? Seems the difference in potential ought never to be larger than about 2.5 Volts. Wouldn't a 5 ohm resistor limit current to a safe(?) 0.5 Amps? What does the battery's internal resistance do to the system?

.. and yet another question. My gel cells consist of two batteries of six separate two volt cells each. I have access to additional cells to make two batteries of seven cells each. Nominal potential (two batteries in parallel)of 14V instead of 12V. Is there merit to this? Rig can handle maximum potential of 15.8 volts. Can these cells be charged to that higher potential to increase their capacity? How difficult would it be to voltage convert the nominal 13.8 V available from the vehicle supply up to 15.8V?

I know, lots of questions. And free advice is worth what I pay for it.
;-)

Regards,
Paul
KB2TCG

390. Re: Circut req'd - telephone line in use indicator.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: alf@kaiwan.com
Message-ID: <Otn-mClg1SIT068yn@kaiwan.com>
Source record: 108108

In article <DL8H7r.29r.0.sheppard@torfree.net>,
ai657@freenet.toronto.on.ca (Paul Egan) wrote:
>
> I know it is a litle off topic but here goes. I need a circut diagram for a
> "telephone line in use indicator". We have three modems on a single
> telephone line here
> and we are constantly cutting each other off. I guess it would have an
> LED to indicate
> line usage and would be plugged into the phone jack of our modems. I have
> heard that
> manufactured units exist but can't seem to find them here in Toronto.
> Any help would be most appreciated.
> Please e-mail. Thanks.
> Paul Egan VE3GFY

At least here in the US the easiest thing is to hook a volt meter
to measure the voltage. It should be around 48 V when no one is
on line and drop to < 10 V if the phone was in use. That what I
do at the office.

73,

Alfred Lee alf@kaiwan.com
KE6KGV 'The answer is (e^i&#65533; + 1) ? "No" : "Yes"'

391. ? Vaacuum Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <30FAE357@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 108109

Hello!

a simple question, but can anyone tell me how to use vaacuum capacitors?
These are often mentioned in stateside homebrew descriptions, maybe your
surplus market is larger...

Are they tuned with pressing the axis or rotating it? If rotating, what is
the roation angle and what force has to be applied? Much more than a
standard
capacitor?

Thanks for your answer!

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
DL4MEA@AMSAT.ORG (Internet)
HTTP://WWW.SCN.DE/~KOELLNER (WWW)

392. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ddnap$q75@newsbf02.news.aol.com>
Source record: 108110

Hi Glen,
In article <1f7cc$12f11.27a@NEWS>, ke3mf@atc.ameritel.net (Glenn Thorn)
writes:
I wrote:
>>This is begining to sound like someone danced around the truth a bit in
>>the earlier replies.
you wrote:
>I fail to understand the statement.

Let me explain it then. Reading this thread, I first received the
impression there was no reason the code was omited other than space and a
lack of understanding people would be interested in it. I received the
impression QST omitted the flow chart basically on it's own.

As I understood your comments, you said the author was concerned about
"giving away two years of work to a manufacturer". That leaves me with the
impression the author's desire was to have the data left out.

If that was even part of the reason for the omission, then everyone should
have just said so instead of implying the omission was due to
forgetfulness or ignorance.

In my opinion, "protecting work" is a very poor reason to omit anything
from an friendly helpful educational article.

Tom

393. Needed: Eggbeater Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: dsantoro@pipeline.com
Message-ID: <4dgk1d$see@news.nyc.pipeline.com>
Source record: 108024
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Am looking to homebrew an Eggbeater Antenna dor Sarex/Mir operation.
Can anyone point me to a site or file with plans?

Thanks, & 73,

_____
David H. Santoro | dsantoro@pipeline.com | Amateur Radio
Systems Analyst | dsantoro@compuserve.com | Callsign
JRP Securities, Inc. | dsantoro@msn.net | N2VYP

<Standard Disclaimers Apply>

394. Re: QST Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: a2274990@athena.rrz.uni-koeln.de
Message-ID: <4dg7m9$f2i@news.rrz.uni-koeln.de>
Source record: 108025
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Dave Nulton <dnult@axiom.net> wrote:

>The focus of my project at this point is writing a program to draw
>a smith chart and plot impeadance points as I run my algorithym.
>The smith chart is a handy way of looking at impeadance data -
>although it has slowed me down quite a bit. I have already
>written the functions needed to model different algorithyms - just
>need to write the algorithyms.

>I am also looking for a schematic for a "phase / mag" detector -
>to use instead of the directional voltmeter (or
>what-chu-ma-call-it) used in the QST project. That way the
>program could predict the best match instead of clattering relays
>looking for a match.

Hi Dave !
As I understand you effort, you want to measure the komplex impedance
of your antenna at a give frequency (i.e. 60-j80), insert the data in
your computer and than it tells you how to adjust your tuner.
If i understood correctly (please tell if i did not), that should be
fairly easy. i wrote a procedure that gives you all solutions of
c1,l,c2 for a t-filter configuration to match a certain impedance to
50ohms. that is a long list. now you simply take the solution which
has the highest load capacity (c2=max). This should be the best match
with least loss !
I think the hard part to it is guessing the complex impedance !!!
If you have suggestions, how that could be accomlished, i would be
thankfull to hear.
73 thilo dl9kce

395. small quantity extra components

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: phoa@astoria.pc.my
Message-ID: <482@astoria.pc.my>
Source record: 108026

Happy Days,

I am a electronics hobbies.In the past I came across some components which I thought other with the same hobby might be interested.I am willing to trade for other components/books or other Electronics items.

1) dualgate mosfet 3SK122

2) small signal bipolar FAC-100X package/pins

order code HXTR3101

NPN, Vcbo 30,Vceo 18, Ic 0.05,Pw 600mW,Ft 6000Mhz,
hfe 50,Ice 10mA

Application: High Freq Amp (RF/VHF/UHF)

3) Balance mixer Diode ring

order code 50822830 & 50822831

4) other components!!!

Interested kindly email.

--
==========
Phoa Kia Teck

Postal address:
22 Tramway Road, Email: phoa@astoria.pc.my
10460 Penang. Fax : 04-361984
Malaysia.

396. Re: lofer transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960116164902.6460I-100000@biggulp.callamer.com>
Source record: 108027

I think Jim, that you mean ten meters rather than ten feet for antenna
length. Usually in the USA we refer to the antenna as fifty feet in
total length including the top hat. LOWFER's are experimenters in the
160 to 190 KHz range. Lots of good work is being done in that region
under some horrible conditions usually by hams but not necessarily so!
Cliff Buttschardt W6HDO

On 16 Jan 1996, Jim wrote:

> This band is between 160 and 190 kHz. There have been quite a number of articles
> over the years on various construction projects. The law granting authority to use
> this band limits power to one watt and antenna size to 10 feet. This size limit
> makes for some heavily loaded antennas!
>
> Jim, WU0I
>
>
> a2274990@athena.rrz.uni-koeln.de (Thilo Kootz) wrote:
> >hi hams !
> >i understand in usa there are longwave experimental frequencys. i
> >would be interested in transmitting proposals.
> >maybe using an audio amplifier ?
> >does anyone have idears also about the antenna matching ?
> >greetings, thilo dl9kce
> >
>
>
>
>

397. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4dggv1$3vm@newsbf02.news.aol.com>
Source record: 108028

Hi Gary,
>As I noted, core saturation plays no part with 1 kV/nS pulses. They
>*capacitively* couple between the transformer windings, unless you
>use a ferroresonant or Faraday shielded transformer of course. Note
>that's *nanosecond* not *millisecond*. Transients almost by definition
>are *very* fast pulses. They usually don't pack a lot of energy (which
>is good or little bitty MOVs would be of no value), and don't do the
>damage themselves in line operated equipment. What they do is serve as
>junction puncturers or "ignition" sources. It's the ordinary line current

>that then does the damage by following the path created by the transient.
>

If the pulse is capacitively coupled, how does the turns ratio step it up?

73 Tom

398. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.821808239.7102.jwicklun@mycroftxxx.halcyon.com>
Source record: 108029

In article
<NEWTNews.821723304.9289.Pbutterf@butter-pc.ess.mc.xerox.com>,
<butte.wbst129@xerox.com> writes:

> I am interested in increasing the battery capacity in my pick
> up truck to permit it to run equipment for a longer period of
> time without the engine running. Specifically, I would like
> to be able to leave my remote controllable dual band rig on as
> a cross band repeater without coming back to a dead battery.
> I've considered the following options, but would like
---snip
When I bought my truck it had two batteries installed as part of
a "camper" package. One battery is strictly for the engine, the
second battery powers the camper and is disconnected from the
truck battery when the engine is off. When the engine is
running both batteries charge. There is a module that controls
the interconnect between the batteries; I don't know if it is
any more than a simple relay. It may or maynot include some
form of current limiting.

In any case that hookup should be a standard item at an RV shop.
Or, from GM since it came from the factory on my Chev.

73 de KI7RH (Jay)

399. How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: web40@charweb.ORG
Message-ID: <Pine.SOL.3.91.960116111100.18771C-100000@wilbur>
Source record: 108030

> Date: Mon, 15 Jan 1996 16:11:33 GMT
> From: butte.wbst129@xerox.com
> Subject: How to add battery capacity to a vehicle?

> I am interested in increasing the battery capacity in my pick up
> truck to permit it to run equipment for a longer period of time
> without the engine running. Specifically, I would like to be abl
> to leave my remote controllable dual band rig on as a cross band
> repeater without coming back to a dead battery. I've considered
> the following options, but would like comment, feedback and
> suggestions.

1.
> Install a deep-cycle (e.g. marine) battery in place of the existin
> one. Would select one that fit in the available space and still
> had the "cold-cranking amps" rating of the existing one.

Deep cycle (marine) type batteries were not designed for automotive
cranking service. You could do this, but you may not get proper battery
life.

> 2.
> Install a second conventional battery in parallel with the existin
> one. Don't know what kind of balancing might have to be done
> here.

Good choice, but you will probably have to increase the charging
capacity of your alternator. Diesel cars have been doing this for a long
time.

3.
> Install a second battery with a manual switch. High Current
> switch=$$?. Would it have to be at the battery instead of near
> the dashboard?

Unless you used some type of current limiting, you would have to
use a high current remotely controlled switch and heavy cables. The
inrush of current from a fully charged battery to a dead battery could
overheat small wires and burn out low current switches.

4.
> Power the rig from a separate lead-acid or gel-cell with trickle
> charger powered by an ignition-switched circuit. (I already hav
> gel cells with about 20 amp-hours of capacity) Don't know how t
> construct this circuit to limit current if battery were
> discharged. (Yeah, I'm ignorant, but learning...) Thoughts anyo

Complicated charger circuit would be required to prevent damage to
the gel cells, plus you would not have the capacity for long periods of
operation unless you ganged ten or more together!

> Regards,
> Paul
>
> KB2TCG

Paul, your best option would be to install a deep cycle marine
battery in your vehicle and connect it through an adapter sold for this
purpose to keep a recreational vehicle lighting circuit battery charged.
You can obtain this adapter from just about any recreational vehicle
dealer or service/parts supplier. (Also check J.C. Whitney catalog).
Connect the radio to the deep cycle battery. Connect this battery to
your charging circuit through the adapter. You can drain the radio's
battery completely without becoming stranded because the vehicle battery
will still be fully charged. As soon as the vehicle is cranked, the
adapter starts a regulated charging of the radio's battery.
Since an automotive battery was not designed for this use, and a
marine deep cycle battery was not designed for automotive use, this
option gives you the best of both.

Jim Ross - KF4DCF

400. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan16.164114.21712@ke4zv.atl.ga.us>
Source record: 108031

In article <4ddb37$h1s@ixnews8.ix.netcom.com> tmathis@ix.netcom.com(Tim Mathis) writes:
>I have heard that the the effect of each overvoltage incident is
>cumulative and the primary failure mode is short circuiting of the the
>MOV.
>
>Is this true?

The normal failure mode is shorted. That's good. If they failed
open, you might have no protection and not know it. A catastropic
failure usually results in the MOV *vaporizing*, so that sort of
failure is definitely an *open*. :-)

Damage can be cumulative, but if the transient is within the joule
limits of the device, it should cause no damage at all.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

401. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan16.170537.21858@ke4zv.atl.ga.us>
Source record: 108032

In article <30FBE7D3.69B5@arrl.org> Zack Lau <zlau@arrl.org> writes:
>Wes Stewart wrote:
>> i-f. A change in wire dress and feed-thru capacitor values
>> moved the frequency enough to eleminate the problem. Here
>> was a case where everything was done "right" and we still
>> had a problem.
>
>How would you attack the problem in a "DC to daylight"
>amplifier with no "safe frequencies" to move the
>resonances?
>
>I've been known to use resistive loading in the bias
>lines of low power amplifiers, but this isn't always
>practical.

Yep, and if you aren't careful you'll have an RC relaxation
oscillator too. The best course, IMHO, is to have local
regulation at each module.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

402. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.34.00262BB7@azstarnet.com>
Source record: 108033

In article <30FBE7D3.69B5@arrl.org> Zack Lau <zlau@arrl.org> writes:
>From: Zack Lau <zlau@arrl.org>
>Subject: Re: VCO power supply noise reduction
>Date: Tue, 16 Jan 1996 10:00:51 -0800

>Wes Stewart wrote:
>> i-f. A change in wire dress and feed-thru capacitor values
>> moved the frequency enough to eleminate the problem. Here
>> was a case where everything was done "right" and we still
>> had a problem.

>How would you attack the problem in a "DC to daylight"
>amplifier with no "safe frequencies" to move the
>resonances?

That's a lot of octaves! (Or decades even).

>I've been known to use resistive loading in the bias
>lines of low power amplifiers, but this isn't always
>practical.

Well, as you already know, ferrites are probably the best answer. You can get a |Z| real (resistive) part that is useful over a fairly wide frequency range while not presenting a DC resistance. Even if there are resonances somewhere, the Q is lowered and this often helps.

The point I was trying to make was that the shotgun and more-the-merrier approaches often work, but not always. In ham stuff, this is often OK, because we build only one of something and can always fiddle with it. The problems arise when you want to build a bunch of something and normal tolerances bite you.

As designer for the masses, you must be aware of this.

Even in aerospace, we historically have thrown money at things by screening hardware (as the VCO vendor had done with the regulator chip, BTW) to improve yield and reduce variability. Now days, we are being forced to use Commercial-Off-The Shelf (COTS) stuff. This is for two reasons: one, the customer (that's you, Taxpayer) doesn't want the finest anymore and 2, no vendors want to put up with the paperwork necessary to build a handfull of parts, when they can build millions for other people. This scares the hell out of me, but nobody asked me.

>Zack
KH6CP/1

Regards, Wes -- N7WS

403. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4dgqha$g86@maureen.teleport.com>
Source record: 108034

```
; thomas.g.booth@den.mmc.com (Booth, Thomas G) writes:
; FWIW the trademark for TransZorb (this is the correct spelling and use of
; upper and lower case characters) is held by General Semiconductor
; Industries, Inc. An alternate source of silicon transient voltage
; suppressors is Microsemi Corporation - the trademark for their product line
; is TAZ.

Motorola also has a line of zeners characterized for transient protection.
They call theirs TVS (Transient Voltage Suppressors).

Roy Lewallen, W7EL
```

404. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4dgu7i$71@solaris.cc.vt.edu>
Source record: 108035

In article <NEWTNews.821808239.7102.jwicklun@mycroftxxx.halcyon.com>,
Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
[...]
>When I bought my truck it had two batteries installed as part of
>a "camper" package. One battery is strictly for the engine, the
>second battery powers the camper and is disconnected from the
>truck battery when the engine is off. When the engine is
>running both batteries charge. There is a module that controls
>the interconnect between the batteries; I don't know if it is
>any more than a simple relay. It may or maynot include some
>form of current limiting.

The most common method of doing this is a device called a "battery
isolator", consisting of two power diodes on a heat sink. It has three
terminals: Alternator, Battery 1, and Battery 2. The internal wiring is:

```
|---->|---- Battery 1
Alternator -----|
|---->|---- Battery 2
```

When the engine is not running, the two batteries are isolated since one or
both of the diodes will be reverse-biased. Thus the auxilary battery can
be run down without drawing any current from the engine battery. When the
engine is running, power generated by the alternator forward-biases the
diodes and charges both batteries, giving preference to the one with a
lower voltage. Eventually, both batteries will charge to the same voltage.
Usually the vehicle's voltage regulator remains connected to the Battery 1
circuit, so the voltage at that battery is regulated, and the alternator
output voltage is able to rise to overcome the drop in the diode. The
voltage available at Battery 2 is inherently also regulated, since the
voltage drop in the two forward-biased diodes is about the same.

Battery isolators are sold in different amperage ratings, or you can
homebrew one from two suitable diodes and a heat sink. The diodes need to
be rated for the full output of the vehicle's alternator, which can be more
than 100 A in some cases.

-Mike KD4QDM

405. Spare cellular telephone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Caspar van den Broek <caspar@fishtech.co.nz>
Message-ID: <4dftf3$ev3@sirius.intxpress.co.nz>
Source record: 108036

I have replaced my cellular telephone with a newer smaller better model and now am left wondering what use I can put the old Motorolla 9600 too. Has anybody got any suggestions what might be possible with a few simple modifications.

Ta

406. Want simple 0.5-1W amp design for 6m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: CBS5LD@leeds.ac.uk
Message-ID: <4dg0dp$7to_004@leeds.ac.uk>
Source record: 108037

Hello, I would like a simple RF amp schmatics 0.5-1W for the 6m band. Any designs?

Laurens

P.S. I'm a beginner

407. Re: PC-Trace

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: mcline@iquest.net
Message-ID: <DLAL94.J9@iquest.net>
Source record: 108038

Carter Brock <cbrock@dialnet.net> wrote:
>The January issue of Nuts & Volts magazine has an article by T.J. Byers
>on circuit design software under $100. In this article there is
>referance to two shareware packages "PC-Trace" and "Schematic Plus" that
>are advalible from http://users.aol.com/spoulsen/index.htm. I have
>tried this URL and it goes nowhere. Does anyone have another source for
>this software?
>
>Thanx Carter Brock cbrock@dialnet.net

Try leaving the "index.html" off of the URL and you'll
probably get through, I did. I don't know why, but that
happens on ocasion. It was running VERRRRRY slow, and I
aborted the download.

Mike
N9RJW

408. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <30FBE7D3.69B5@arrl.org>
Source record: 108039

Wes Stewart wrote:
> i-f. A change in wire dress and feed-thru capacitor values
> moved the frequency enough to eleminate the problem. Here
> was a case where everything was done "right" and we still
> had a problem.

How would you attack the problem in a "DC to daylight"
amplifier with no "safe frequencies" to move the
resonances?

I've been known to use resistive loading in the bias
lines of low power amplifiers, but this isn't always
practical.

Zack KH6CP/1

409. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: bj@gin.or.JP
Message-ID: <9601161321.AA00007@bj.gin.or.jp>
Source record: 108040

```
subscribe
```

410. lofer transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: a2274990@athena.rrz.uni-koeln.de
Message-ID: <4dg7m4$f2i@news.rrz.uni-koeln.de>
Source record: 108041

hi hams !
i understand in usa there are longwave experimental frequencys. i
would be interested in transmitting proposals.
maybe using an audio amplifier ?
does anyone have idears also about the antenna matching ?
greetings, thilo dl9kce

411. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4dh091pvp3@mhafc.production.compuserve.com>
Source record: 108042

In my article(s) I've included source code and schematics. I think the problem that some authors have with this is that they think a years work may be grabbed by some (un-nice) character and sold commercial. More than one software author has been paid zilch for his efforts. I've found that a kit that includes hardware cuts this down. And of course my goal is to help translate some of the techno-babble that most component manuals are written in. You know what they say "Examples are worth 1000 words!" Actualy I say "Without a working example you got zilch!" But others may not feel that way. And I think you can voice your opinion by not buying a kit without full source. Or whatever you don't like. On the other hand if there are people who want a nice antenna tuner I don't think it is our place to demand it be removed from QST. Maybe some of those who dislike the no source bits should publish source? Just a mean idea...
73 and please.... Relax! Life is short.
--
73, Jay WB0VNE - AAV5TH

412. X-tal 1.36MHz - looking for

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: fbures@alchemy.chem.utoronto.ca
Message-ID: <DLAH3t.A60@alchemy.chem.utoronto.ca>
Source record: 108043

Desperately looking for 1.36MHz Crystal I need to repair a
mass spectrometer. If someone has one at home, please help.
Will pay. Close enough frequency acceptable.
I could also do with a 21.76MHz one.
Thanks.

Frank Bures, Dept. of Chemistry, University of Toronto
fbures@alchemy.chem.utoronto.ca
CompuServe:71324,1515
Frank_Bures@compuserve.com

413. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4dh0r9pvp4@mhafc.production.compuserve.com>
Source record: 108044

Tom, if it were a program like for instance Circad the effect of posting the source would be A: Lose all revenue B: Give away all "trade" secrets. Now I understand that this was not a program but there are those who come from that background who will feel the same. When I published the source to Weekend DigiVFO I did so thinking "This is also hardware" And of course I wanted to help others understand this new technology. If I got 10 Cents from that project it would have been ok with me. Of course many hundreds of people went DigiWacko and I made a few bucks from that piece. A guy who works a year on a project and might be counting on making money on it might not feel the same way. Also with DigiVFO I never felt the software was "done" Others have proven that by sending me new programs based on my code. Neat! Maybe the authors of these UnPublished bits Feel that this is done no room for improvment. I dunno. I do hoever feel that it is up to the author. It is a little like the people who hate contests (or SSTV, Lists, DXers, etc) who say "These guys should all get stuffed" Maybe it is not your (or my) cup of tea but it appears that there are people who like the ATU piece and think enough of it to send off for a kit.
--
73, Jay WB0VNE - AAV5TH

414. Re: lofer transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan16.200959.22962@ke4zv.atl.ga.us>
Source record: 108045

In article <4devhq$o3i@news.rrz.uni-koeln.de> a2274990@athena.rrz.uni-koeln.de (Thilo Kootz) writes:
>hi hams !
>i understand in usa there are longwave experimental frequencys. i
>would be interested in transmitting proposals.
>maybe using an audio amplifier ?
>does anyone have idears also about the antenna matching ?
>greetings, thilo dl9kce

In the USA there is the Lowfer "experimental band" from 160 kHz to 190 kHz, 1 watt, maximum 50 foot antenna (and feedline if used), no license required. There is a fairly large and active group here. Also in the USA, no license is needed for operation below 8 kHz. I don't know of any real radio activity by experimenters down at ELF, but there is some activity with "Earth Radio", which is really just a sheet resistance method of sending signals. Performance can be surprisingly good if you can deal with the power line currents, IE *horrible* hum.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

415. Re: lofer transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Jim <jdd@cellnet.com>
Message-ID: <4dh6in$dih@mirrors.cellnet.com>
Source record: 108046

This band is between 160 and 190 kHz. There have been quite a number of articles over the years on various construction projects. The law granting authority to use this band limits power to one watt and antenna size to 10 feet. This size limit makes for some heavily loaded antennas!

Jim, WU0I

a2274990@athena.rrz.uni-koeln.de (Thilo Kootz) wrote:
>hi hams !
>i understand in usa there are longwave experimental frequencys. i
>would be interested in transmitting proposals.
>maybe using an audio amplifier ?
>does anyone have idears also about the antenna matching ?
>greetings, thilo dl9kce
>

416. Re: Xpert Needed:Zener Diodes --- Can you make what you dont have?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4dh8lv$cdo@newsbf02.news.aol.com>
Source record: 108047

I was the original poster who created this "Xpert Needed: Zener Diodes" thread. I figured I'd take a moment to thank the dozens of individuals who took the trouble to respond.

The composite answer appears to be this: Yes, the forward biased diodes can be used as a reverse biased zener might, and several individuals have done so in their designs, though there can be troubles related to temperature effects, and the fact that the forward "breakdown" does not exhibit the sharp "knee" that the zener would.

For my particular application (as outlined in the original message), it seems the best route may be to forgo the zener/transistor discrete circuit in lieu of one of the many available 3-terminal supervisor IC's by maxim, panasonic, dallas, and even sony.

Again, thanks to all for their help!!
/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

417. state-of-the-art in FSK demodulators for HF TTY?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-1601961535360001@burdick.interval.com>
Source record: 108048

What are Kantronics and others using for FSK demodulation? XR2211, LMC568, AMD2910? I'd like to find a non-DSP (that is, low-current) device that can really dig out the weak ones on HF TTY (Baudot and ASCII, mostly). Also, I'm looking for a TTY pen-pal/guru who can help with some technical issues in exchange for some no-charge alpha-test hardware.

Please respond directly to burdick@interval.com.

Thanks,
Wayne Burdick, N6KR

418. Re: ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Vance Campbell <vcampbell@novell.com>
Message-ID: <30fbc721.0@news.provo.novell.com>
Source record: 108049
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

David Mclean <dmclean@dfw.net> wrote:
>Hello to all:
>
> Come a take a look at my new web page. I have been working on it for
>the last 4 weeks.

<snip>

What's the URL?

419. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: faunt@netcom13.netcom.com
Message-ID: <FAUNT.96Jan16151834@netcom13.netcom.com>
Source record: 108050

Actually, relay systems to do this are fairly common. My pickup came with the trailer towing package, and it has provision for a second battery in the trailer, charged from the alternator. This is done with a relay. I have added a second battery under the hood for the radios and a winch, which is controlled by another relay. The advantage of this is that by controlling the coil of the relay (rated for 500A) from two places and off, I can parallel the batteries only when charging (normal mode), parallel them all the time (jumpstart myself, or if extra capacity should be needed when winching), or isolate the second for clean radio power or if it goes bad.
If you use a diode battery isolator, you must adjust the voltage regulator or make sure your wiring takes care of the diode voltage drop.
Wrangler Power Products has neat stuff for doing this, including complete kits, battery trays, cables, connectors, fuses and holders, circuit breakers, distribution unit, etc.

In the February "Four Wheeler" magazine one of their articles uses materials from Wrangler to "provide clean power" for a CB rig. They show a 5 watt CB being fed by 4 gauge cable in a sheild. They've got the right idea, and for a loaded amateur mobile rig, 4 gauge isn't too far out. Check out the magazine, check out Wrangler, and tell them I sent you.

73, doug

420. Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Bob.Zander@jpl.nasa.gov
Message-ID: <1996Jan16.194742.28225@llyene.jpl.nasa.gov>
Source record: 108051

Hi all...

I remember as a school project my Grandfather and I built a XMTR that was powered by a penny and a quarter inserted into a grapefruit. Well, my son needs such a project for school and my Grandfather is no longer with us. Can some kind person point me in a direction where I might find plans for this XMTR?

Thanks and 73

Bob KE6ZUF

421. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: faunt@netcom13.netcom.com
Message-ID: <FAUNT.96Jan16152957@netcom13.netcom.com>
Source record: 108052

Given the response to me from LDG, I think they and the QST staff
misread the audience. The flow chart and binary is available now, for
SASE and formatted PC 3 1/2" floppy, and the source will be available
when it's adequately commented. I've got the flow chart already, and
suspect I could put the code into an 68HC811E2 (2K vs 512 bytes code
space on the A1) with no problem, right now.
I can also see why the QST staff didn't publish the flow chart.

There are going to be more articles for devices using the MC68HC11 from
Dwayne and LDG, with more information available.

The article caused me to do some research on the 'HC11, and I think
it's a cool IC with lots of potential for amateur radio projects.
Check out the HC11 FAQ available at rtfm.mit.edu under
sci.electronics, among other places.
73, doug

422. Re: ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Gary Watts <gwatts@qni.com>
Message-ID: <Pine.SOL.3.91.960116230442.16439C-100000@qni.com>
Source record: 108053
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

Ahh that was pretty easy to find the URL

try www.dfw.net/~dmclean

It worked for me

Too bad we can't replace morse code for questions like this !

Gary Watts de N0OXV
Kansas City Mo
81 GL1100I

On 16 Jan 1996, Vance Campbell wrote:

> David Mclean <dmclean@dfw.net> wrote:
> >Hello to all:
> >
> > Come a take a look at my new web page. I have been working on it for
> >the last 4 weeks.
>
> <snip>
>
> What's the URL?
>
>
>

423. Pls Help With Keyer Circuit Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: jhschutt@figmnt.tayloru.edu
Message-ID: <1996Jan16.174315.2680@figmnt.tayloru.edu>
Source record: 108054

Can you help a neophyte in electronics? I built a keyer that I saw described in the article "An Inexpensive Morse Code Keyer" which was published in 73 Amateur Radio Today in June 1995. Here are the questions.

1. Initially, one of the grounds was bad. This could be due to a mistake made by a rookie. But, maybe not. Has anyone else built this circuit and had any problems?
2. Now that it works, the volume is barely audible. Any idea what I shoul try to correct this? Here are some options:
a. Would a bad 2N2222A cause this? That's the amplifier transistor.
b. The parts list says to use a Radio Shack 273-091 Piezo Speaker.
The author says that this is a 1200 ohm speaker, but the RS 273-091B is a 3500 ohm speaker. WOuld this cause the very low volume?
c. Am I correct in mounting the electrolytic cap with the - side towards ground? I thought so, but someone told me that the "curves" side of teh symbol was the positive side. Every reference that I have shows it to be the negative side-- the side closer to the (-) of the battery (ie., ground.

I'd really like to hear the keyer. I really appreciate your help. Because our News server crashes regularly, e-mail replies are preferred. THANKS. I know that it takes time and effort to reply to a post.

John KB9KSM

--

John Robert Schutt /\ jhschutt@tayloru.edu
Taylor University- Fort Wayne //\\ (219) 456-9061
1025 W. Rudisill Blvd. ///\\\ FAX: (219) 456-2119
Fort Wayne, IN 46807 ||
---

424. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4dh1n9$lv2@newshost.lanl.gov>
Source record: 108055

Is there such a thing as a radio *repair* newsgroup ?
I am particularly interested in a schematic/service info for
a Uniden CR-2026 SW receiver at the moment.

--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

425. Re: Modutec AC panel freq meter - available?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-1501962242020001@amber1.ultranet.com>
Source record: 108111
Cross-posted to: alt.engineering.electrical,sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4ddq22$123k@sol.caps.maine.edu>, salomon@saturn.caps.maine.edu (Will Salomon) wrote:

> I am looking for a panel meter for measuring AC line frequency for a
> generator.

Will:

Shurite makes them. A recent H+R Rademan (1-800-848-8001) catalog lists two models with 55-65 hz range: S3-212 (2 1/2", $69.00), and S3-213 (3 1/2", $79.00).

Cheers,

Jon

426. ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: David Mclean <dmclean@dfw.net>
Message-ID: <4df36s$3lt@fnord.dfw.net>
Source record: 108112
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

Hello to all:

Come a take a look at my new web page. I have been working on it for the last 4 weeks. I have lots of thing that you will like. Some of the things that I have are: MODs, Swap Shop, Dfw repeter list, comment page, links to other good ham pages, call looks ups (updated by the sec), radio pricing, Links to QRZ,FCC,HRO, and many more. If you are a ham and would like you web page added to my list just send me e-mail. Please tell me what you like and dislike about the page. I want all types of comments. Hope you like what I have.

--
David Mclean
From The World of Hamradio
KC5NNV is Clear!

---

427. Old FM signal generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: ORBAN@amt00.ime.nrc.ca
Message-ID: <4dgju5$ske@nrcnet0.nrc.ca>
Source record: 108113

Recently I bought on a garage sale a BOONTON RADIO CORP. TYPE 202-C
FM signal generator. My guess is that the generator is from the '50s.
I would like to get in touch with someone who has a manual/circuit
diagram for the above.

Thanks, Peter
--
Peter Orban
National Research Council of Canada
Internet: peter.orban@nrc.ca

428. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-150196192610@160.205.101.24>
Source record: 108114

FWIW the trademark for TransZorb (this is the correct spelling and use of upper and lower case characters) is held by General Semiconductor Industries, Inc. An alternate source of silicon transient voltage suppressors is Microsemi Corporation - the trademark for their product line is TAZ.

TGB

\\ The opinions expressed herein are my own. //

429. Modifying a Cobra SR900 scanner ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: nahhas@bc.cybernex.net
Message-ID: <DL9B19.I10@news2.new-york.net>
Source record: 108115

Im looking for info on how I can modify my Cobra scanner so that it
can recieve other frequencys

430. Need help with Motorola sm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: steveb@n1vlv.iii.net
Message-ID: <4dfgqc$ejh@news.iii.net>
Source record: 108116

Hi there!!!
I recently purchased a used Motorola speaker mic from
a local 2-way radio shop. The model number is NTN4849A.
I want to use this with my HTX-202 handheld, trouble is,
I don't know how to wire it up!!! If anyone out there
could please help me it would be very greatly appreciated.

73 de N1VLV
Stephen Brown
Leominster MA

431. Re: Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <4dgrum$209@brickbat.mindspring.com>
Source record: 108117

If remember correctly, I would float pin 10 of the MB8719 and then place a 1K pot on this pin to ground. By adjusting the pot, the pll would go thru 3 states. One is the normal state, one is a +640KHz and the other somewhere in between is +1280KHz which brings you to 28.685 on CH40. You need to readjust the VCO coil which is the one that contains wax and has red plastic until the vco oscillates at this new frequency range. Once this is done you need to retune the TX and TX coils to peak the RX and TX on the new range.

73's
Hope this helps.
AC4OP

In article <4de7gc$r2s@cloner3.netcom.com>, rreames@ix.netcom.co says...
>
>
> I need some info on converting a Cobra 148gtl to the 28.3-28.5
>portion of 10 meters. I've picked up some stuff about modifying the
>PLL (mb8719) circuit from some CB info but I'm not sure I trust it.
>Has anyone done this successfully? Also need to modify the RIT for
>both receive and xmit.
>
>Randy
>WA0TKO
>rreames@ix.netcom.com

432. lofer transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: a2274990@athena.rrz.uni-koeln.de
Message-ID: <4devhq$o3i@news.rrz.uni-koeln.de>
Source record: 108118

hi hams !
i understand in usa there are longwave experimental frequencys. i
would be interested in transmitting proposals.
maybe using an audio amplifier ?
does anyone have idears also about the antenna matching ?
greetings, thilo dl9kce

433. Re: ne602 direct conv.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4df2j9$ipr@maureen.teleport.com>
Source record: 108119

> eeg132@news.salford.ac.uk (A.VILCHES) writes:
>
> Hi, I'm thinking of building a direct conversion Rx using the ne602 dual
> balanced mod. and a VCO made from shmitt logic (outputs squarewaves).
> . . .

This doesn't answer your questions, but. . .

A big potential problem with direct conversion receivers is AM demodulation. This is caused by
even-order distortion in the mixer. The symptoms are a constant background din of audio caused by
demodulation and amplification of loud AM (BCB or SW) signals. I don't have direct experience
with the NE602 but have been told by reliable sources that it's much more susceptible to this
than a diode ring mixer. If you do use an NE602, I recommend preceding it with a filter which is
narrowband enough to greatly attenuate potential sources of AM. This requires quite a narrow
filter if you want to use it on 40 meters.

73,
Roy Lewallen, W7EL

434. Re: Publishing Articles

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4dgvskpvp2@mhafc.production.compuserve.com>
Source record: 108120

I agree with what you say "mostly". In my case of the DigiVFO the parts I called out are not easily subed out. One the HSP45102 is a problem for me to keep on hand so I have to tell people who call and write for info on where to buy them to please don't. I want em! <grin> Actualy that is not as big a problem as it was at first but "some" parts are strange and weird. Most are not!
--
73, Jay WB0VNE - AAV5TH

435. Remote Operating of HF station (VHF or Telephone)?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: Butch Weber <bweber@soback.kornet.nm.kr>
Message-ID: <30FC04FB.E47@soback.kornet.nm.kr>
Source record: 108121

Hello, I am looking for any information on remote operation of my HF rig. I have a Kenwood TS-440S/AT with a CL-36 with 40 meter attachment at work and live in an apartment. I know I have seen articles in the past about remote operations but I am in Korea and don't have access to all my past magazine articles. I am using a 486 DX2-66 and would like to interface the computer as well. I haven't seen anything on the Web that relates to remote operating. If there is and I missed it could someone please pass the information. Thanks,

Butch HL9BW

eMail = bweber@soback.kornet.nm.kr

436. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4dgf9u$34g@newsbf02.news.aol.com>
Source record: 108122

In article <O7GgkMAPLg+wEwqW@ifwtech.demon.co.uk>, Ian White
<G3SEK@ifwtech.demon.co.uk> writes:

>
>Sadly, that's no longer true. If a popular homebrew project is ripped
>off and marketed as a ready-built product, it will sell like hot cakes.
>
>>
>
>73 from Ian G3SEK

Ian,

I think we miss the point. When an article is published as a teaching aid, it is given away to everyone. The author should be prepared for that.

For example, I designed some phased receiving loops for HF many years ago. Because I decided I wanted to market the design, I chose NOT to give any of the information to anyone.

But if I published the idea and gave it away, it's gone. If someone copies it and makes money, I may not like it but....tough luck. I made my choice when I decided to give it away. I'll be damned if I would print part of it and make the readers come begging just to "protect my work". That decision is history when I decide to help others duplicate my work.

I know you make choices like that Ian. You sent me a regulator board layout for HV supplies, and I make my living selling high power amplifier designs. I may make money from something that I "stole" from you. If you didn't want to run that risk, you wouldn't have sent me the board. I'm sure you knew I make money from projects like that, sometimes substantial money. And sometimes I give work away just to help people because I like to help. Especially when they help other people.

I think articles are published to help people understand how something works. If you don't want your idea used by others, don't publicize it. Once you decide to share it, you've shared it. If someone wants to make money from it, more power to them.

I wonder where we'd be if Ohm kept his work secret so people wouldn't steal it? Maybe it'd be Ian's law, eh?? ;-) How many of us have sent Ohm's desendents a Royality payment? How many of us watch someone else do something, and copy the idea? How about Edison?

Come on now, if you don't want your idea "stolen" keep it to yourself. Don't print it under the guise of helping teach and then cry thief.

73 Tom

437. Re: ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-16 00:00:00 UTC
From: John Passaneau <jep@leps.phys.psu.edu>
Message-ID: <30FC38F4.2EEC@leps.phys.psu.edu>
Source record: 108123
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

David Mclean wrote:
>
> Hello to all:
>
> Come a take a look at my new web page. I have been working on it for
> the last 4 weeks. I have lots of thing that you will like. Some of the
> things that I have are: MODs, Swap Shop, Dfw repeter list, comment page,
> links to other good ham pages, call looks ups (updated by the sec), radio
> pricing, Links to QRZ,FCC,HRO, and many more. If you are a ham and would
> like you web page added to my list just send me e-mail. Please tell me
> what you like and dislike about the page. I want all types of comments.
> Hope you like what I have.
>
> --
> David Mclean
> From The World of Hamradio
> KC5NNV is Clear!
> _____>

It might have been nice to put the address in the message.
John Passaneau, WB8EIY, State College Pa.

438. RE: Want simple 0.5-1W amp design for 6m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <30FD1C03@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 107974

hello,

regarding to the message below:

why don't you use the suiting mitsubishi module M57735, it is 0.2W in and
22W out. And you never saw a simpler design like this. The only thing you
have to add is a TX/RX switch...

If you really need a transistor design i can supply you one on request.

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
DL4MEA@AMSAT.ORG (Internet)
HTTP://WWW.SCN.DE/~KOELLNER (WWW)

| Date: Tue, 16 Jan 1996 10:58:48 +0000 (GMT)
| From: CBS5LD@leeds.ac.uk (L. DE BRUIJN)
| Subject: Want simple 0.5-1W amp design for 6m
|
| Hello, I would like a simple RF amp schmatics 0.5-1W for the 6m band. Any
| designs?
|
|
| Laurens
|
| P.S. I'm a beginner

439. Wanted: UHF-cavity TH327/TH347

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: josef.gergetz@siemens.at
Message-ID: <4disgr$p2i@rdserv.sie.siemens.co.at>
Source record: 107975

Hi there,

for our moonbounce-work at OE6XHF we are looking for a UHF-cavity
for the Thomson TH327 / TH347 power tubes.

If you have any information please write to

josef.gergetz@siemens.at
oe6jgd @ oe6xhg.aut.eu

Many thanks
Josef, OE6JGD - op at OE6XHF

440. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: wdr@world.std.com
Message-ID: <DLC1ru.B1o@world.std.com>
Source record: 107976

Jeff Anderson <jeffa@ix.netcom.com> wrote:
> Roy Lewallen writes:
> I dunno if I'd power it with a
> grapefruit, though, it might put the squeeze on the transistor.

> Then again, for long-winded QSO's I'd use a grapefruit. After all,
> it's well known that a grapefruit will supply more juice...

The voltage difference between copper and "silver" should be the same with the two fruits, so the humorous comment above is probably correct, the grapefruite should have more amp-hours in it. As long as the lemon circuit isn't relying on the low capacity of the lemon for voltage regulation...

One concern is modern vs. original coinage -- our current quarters have more copper volume (though not area?) than our current pennies. With modern sandwich quarters they'll be a wasteful "eddy" current between the sides and edges of the quarter. Sandwich pennies have sealed edges, so no such problem. Whether this effect will be measurable I don't know.

Don't eat the fruit afterwards, it'll have been Plated.

Good luck,

--
Bill Ricker N1VUX wdr@world.std.com "The freedom of the press belongs
http://world.std.com/~wdr to those who own one."--A.J.Liebling

441. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4djtee$7bi@usenet.continental.com>
Source record: 107977

>For line level (used to be +8 dbm but the industry is switching to +4 dbm)
>the impedance is 600 ohms.

And even more recently, dBu is being used. In the past ten years, voltage (not power) transfer has been the preferred method of interfacing audio circuits. The popularity of dBu stems from the fact that newer audio devices have output impedances well below 600 ohms. In high-end, professional broadcast applications, the trend seems to have moved toward 50 - 55 ohms. All other things being equal, there's less high frequency roll-off over extended distances of audio cable when using a lower source impedance than 600 ohms. Therefore, dBu only references *voltage* at 0.775 volts, irrespective of impedance.

With the advent of bipolar, +/- 15 volt power supply rails to supply the low-distortion active devices, the manufacturers quickly found that ~ +20 dBu was the maximum output level of the circuit. At +8 dBu, or +8 dBm into 600 ohms, this meant that only 12 - 15 dB of peak-to-average headroom was afforded. Allowing for human/operator sloppiness, the real headroom figure is actually less. Even today with digitally produced sources, 20 dB of headroom is sometimes not enough (Anyone hear Telarc's digital recording of the 1812 Overture on a real mean sound system?)

End of sermon.

-Paul, N9AZ

442. dummy load?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: steps@bashful.einsteininfo.com
Message-ID: <4dja6q$h4s@bashful.einsteininfo.com>
Source record: 107978

Could someone either send me,or direct me to a site where I might find plans
to construct an inexpensive dummy load (50 ohm).I don't need it to handle
more than 10 to 15 watts maximum.Thanx!
steps@bashful.einsteininfo.com

443. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan17.171009.27040@ke4zv.atl.ga.us>
Source record: 107979

In article <rohrwerkDL8M8A.B1D@netcom.com> rohrwerk@netcom.com (John Seboldt) writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>>For microphone level (-55 dbm), the impedance is 150 ohms. For line
>>level (used to be +8 dbm but the industry is switching to +4 dbm)
>>the impedance is 600 ohms.
>
>Not quite, Gary... in the old days it *was* a matched 600 ohm ideal...
>today it's "lowest possible source impedance, highest possible load
>impedance" for balanced line level. Leads to a lot of confusion when
>defining dBm in audio practice, to say the least.

And that bridging technique leads to lots of RF pickup too, which is
why our plants are staying +4 dbm houses with real terminations on
our lines. It means we still have to use DAs instead of simple build
outs, but we're willing to pay that price.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

444. PLL FM Demodulators??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.821903720.21949.jwicklun@mycroftxxx.halcyon.com>
Source record: 107980

Hi all, I'm a little curious. I've been away from RF design for more than a few years, and am just getting back to it. About 20 years ago, using a pll for fm demodulation seemed to be the "wave of the future". Signetics and others were designing chip after chip of pll demodulators. What happened?? Some of those old chips are still around, but all of the more complex IF strip/fm demodulators seem to use other techniques such as quadrature demodulation with a phase shifter. Is it simply a case of simplicity or is there some sort of problem with the pll system?

Thanks.....73 de KI7RH (Jay)

445. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan17.183017.27438@ke4zv.atl.ga.us>
Source record: 107981

In article <NEWTNews.821723304.9289.Pbutterf@butter-pc.ess.mc.xerox.com>
butte.wbst129@xerox.com writes:
>
>I am interested in increasing the battery capacity in my pick up truck to
>permit it to run equipment for a longer period of time without the engine
>running. Specifically, I would like to be able to leave my remote
>controllable dual band rig on as a cross band repeater without coming back to
>a dead battery. I've considered the following options, but would like
>comment, feedback and suggestions.
>
>1.
>Install a deep-cycle (e.g. marine) battery in place of the existing one.
>Would select one that fit in the available space and still had the
>"cold-cranking amps" rating of the existing one.

That's probably a bad idea from two directions. Since you still only
have one battery, you can still discharge it enough with the radio
equipment that the truck won't start. And second, deep cycle marine
batteries are constructed differently than starting batteries, good
luck on finding one with the same "cold cranking amps" in the same
form factor as the starting battery.

>2.
>Install a second conventional battery in parallel with the existing one.
>Don't know what kind of balancing might have to be done here.
>
>3.
>Install a second battery with a manual switch. High Current switch=$$?.
>Would it have to be at the battery instead of near the dashboard?

Diode steering. That gives you an automatic "switch", and is the way
RV kits work. The circuit looks like this

D1 D2
Bat 1+ -x----|<-----x----->|---x-- Bat 2 +
| | |
| Alternator + |
To starter, ign, To Radios
etc

The alternator approximates a constant voltage source when running.
It will charge both batteries (with the one with the lower state of
charge initially hogging most of the current, but that's Ok, they'll
equalize eventually). Since the ampacity of the alternator is sized
to quickly charge only one battery, you'll have to drive a while
longer to charge both batteries, but it'll still get the job done

unless you only drive very short trips.

The diode voltage drop can be troublesome on some vehicles, GM and
Ford/Chrysler require slightly different wiring to deal with that
so that the alternator excitation is regulated up to compensate.
The RV kits come with hookup instructions which will handle that.
Read the package.

>4.
>Power the rig from a separate lead-acid or gel-cell with trickle charger
>powered by an ignition-switched circuit. (I already have gel cells with about
>20 amp-hours of capacity) Don't know how to construct this circuit to limit
>current if battery were discharged. (Yeah, I'm ignorant, but learning...)

A power resistor will serve as a trickle charge current limiter. Use
the right half of the circuit shown above, but add a resistor in series
with D2 to limit charging current to Bat 2 to something equal to about
.1C of the gel cells. The gell cells will be flat at 10.5 volts, so the
resistor needs to limit current to 2 amps for a 3.3 volt drop, or
about 1.65 ohms. This will produce a "taper" charge, but that's Ok
too, it just takes longer for the battery to fully recharge. If the
gell cells (or a regular battery) go completely flat, IE 0 volts,
they'll *self-limit* until their terminal voltage gets up around 10
volts, so you needn't worry about that, IE it's devilish hard to make
a completely flat lead acid battery *take* current.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

446. Re: Questions on the nature of Hetrodyning/Spectrum Analyser guts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: smaas@aol.com
Message-ID: <4dji38$clf@newsbf02.news.aol.com>
Source record: 107982

Re:

> Why
>can't I run the LO at the frequency I'm interested in,
>slug the mixer output with some brutal filter that
>suffocates anything past a few Hz and accept the result
>as reflecting the RF energy at the frequency of
>interest? (is it 'cos the output of the mixer is
>AC-coupled internal to the mixer? :( )

The problem is noise: you will get downconverted AM noise from the LO, and you will have to deal with 1/f noise in the amplifiers following the mixer. you will also need a mixer that has an IF response to DC. but lots of mixers do this.

Finally, there are spurious responses and images that will cause trouble at low IF frequencies.

Steve (W5VHJ)

447. Re: X-tal 1.36MHz - looking for

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: cx163@FreeNet.Carleton.CA
Message-ID: <DLC8E4.765@freenet.carleton.ca>
Source record: 107983

Leon Heller (Leon@lfheller.demon.co.uk) writes:
> In article <DLAH3t.A60@alchemy.chem.utoronto.ca>
> fbures@alchemy.chem.utoronto.ca "Frank Bures" writes:
>
>> Desperately looking for 1.36MHz Crystal I need to repair a
>> mass spectrometer. If someone has one at home, please help.
>> Will pay. Close enough frequency acceptable.
>> I could also do with a 21.76MHz one.
>
> Getting crystals made isn't at all expensive. I can get custom crystals
> in about a week here in the UK for less than #10.
>
> Leon
> --
> Leon Heller, G1HSM | "Do not adjust your mind, there is
> E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
> Phone: +44 (0)1734 266679 | many years ago in Oxford.

Hi Leon and All,

I am repairing my Heathkit Printer. It broke in 1993 and being unemployed, currently is taking me longer than expected to finish the repair. I need a 6.7584 MHz crystal in a HC-33 case for the main logic board of the printer, but can't find anyone that makes just one. Does anyone know of anyone that makes this crystal or has it in stock?

The Heathkit part no. for the crystal is 404-623 and is identified in the circuit as Y201. I do not have any other specifications for the crystal. Can anyone offer any help?
--
Morton Lee Cohen --- E-Mail cx163@freenet.carleton.ca
Resume' : Creator of "I Dream of Jeannie" and
Creator and Developer of "XUXA"

448. Wire Gauge vs Current: 120VAC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4djhu6$cij@newsbf02.news.aol.com>
Source record: 107984

Recently I built a room in a friend's house for the purposes of recording music. The room needed power, so I went to the breaker box in search of a circuit that I could get power from.

I found a 20 amp breaker feeding a string of three outlets: Thats it, thats all that was on that circuit. I fished my wired down the wall and added my recording room outlet to the end of the existing string. So far so good.

What concerns me is this. The wire from the breaker box to the first outlet appears to be #12. So is the wire from outlet 1 to 2. From 2 to 3, the wire appears to be thinner romax (#14?). All the wiring I added (from the 3rd outlet to my room) is all #12.

For starters, 20amps seems to be an awfully large breaker for three lousy outlets. Secondly, While #12 wire in the string could probably carry an overload until the breaker tripped, Im concerned about the #14 link. So, the question is this: Should I replace the 20 amp breaker in the panel with a 15 amp unit?

Please email your response if possible, and thanks.
/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

449. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: hammock@tis.telos.com
Message-ID: <4djlte$198@acheron.telos.com>
Source record: 107985

Glenn Sparks (gsparks@ix.netcom.com) wrote:
: I would use 2 separate batteries. My father set up a simular system in
: his truck to use with an inverter and power tools. You can purchase a
: charging device from any RV shop to charge the RV batteries from the
: truck charging system. This has the advantage of never chancing
: running the truck battery down with external devices. Also he rigged
: up a solonoid to be able to start the truck from both batteries if the
: truck battery is low from leaving the lights on etc.

I placed a second, deep-cycle, battery in the bed of my pickup and use a dual battery isolator (available at most any auto part store) to connect both the new battery and the original battery to the truck's alternator. My ham gear is connected to the deep-cycle battery. I got tired of not being able to start the truck after leaving the radio on in repeat mode. All of the wiring was done using No. 6 welding wire.

The dual battery isolator is basically a set of high current diodes which allows the alternator to charge both batteries at the same time while keeping the batteries isolated from one another so that a weak battery will not draw down a good battery or allows you to draw from one battery without drawing on the other. In my Ford Ranger, the alternator voltage sense is done at the primary fuse panel; therfore, the voltage drop of the diode is automatically compensated for.

--
Randy Hammock KC6HUR | Randy.Hammock@Telos.com
Telos Information Systems - EDOS | hammock@gmd.trw.com
7474 Greenway Center Drive; Suite 400 | Voice: +1 301 507-5904
Greenbelt, Maryland 20770 | FAX: +1 301 507-5892

450. Re: Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4djt6j$32v$3@mhafn.production.compuserve.com>
Source record: 107986

I don't know the mb9719 but you could try getting a sams photofact. That is
a lot of help as after you do your coversion you will need to do a realignment.
BTW I've converted scads of the awful things (CBs) and the results have been
good. And I really get a kick out of working em from the car. First contact
with a an old Pace 23 Channel unit for WD0DAN was Guantomino Bay Cuba!
Fun!
--
73, Jay WB0VNE - AAV5TH

451. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4djt18$32v$2@mhafn.production.compuserve.com>
Source record: 107987

The HC11 is pretty neat! I've been doing work on the new 68HC05J1a which is not as powerful but is dirt cheap and has a really neat development kit for $99 I really like the simulator which lets me plug into my kludge boards and look at the inputs and so on. Things sure have improved since 8080 days!
--
73, Jay WB0VNE - AAV5TH

452. Re: Modutec AC panel freq meter - available?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Tom Pfaffenbach <tvpfaffe@mail.delcoelect.com>
Message-ID: <4dj20e$fvb@kocrsv08.delcoelect.com>
Source record: 107988
Cross-posted to: alt.engineering.electrical,sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Fair Radio in Lima, Ohio, has surplus panel mount reed frequency meters. You can also use an
Automotive type tachometer, which essentially is a clipper/differentiator/rectifier/VM type of
frequency meter. 60 Hz is 1800 RPM on a 4 cylinder engine scale.
If you care to build your own, approximate circuit constants for 60Hz center scale on a 200ua
meter movement would require a 47K ohm series limiting resistor, an 8v zener diode clipper, a .3uf differentiating capacitor, a small bridge meter rectifier, and a 10K ohm calibrating rheostat to shunt the 200ua meter movement.
You can also use an ordinary synchronous motor clock by timing the second hand against your watch.

73

K9JDU

453. Re: XLR balanced to non ckt. is it easy ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4djsei$7bi@usenet.continental.com>
Source record: 107989

>That's because the differential pair input *is* balanced.

Not always. OK, I may be nit-picking Garry, but in professional audio applications, there's a big difference. The terms "differential" and "balanced" are not synonymous in audio applications. It's possible to have a differential op-amp single-stage input for instance, but this should not be construed with a true, balanced input. Here's why: typically, the input impedance of a of the non-inverting (+) differential input is *at least* twice the impedance of the inverting (-) input, with respect to ground. The actual amount is a function of the stage's gain. Generally, under these conditions its necessary to tie the inverting input (through the matched input resistors) to ground. On the other hand, an active, differential *instrumentation* input offers a truly a balanced input with respect to ground. Oftentimes, a three-stage op-amp is employed as the differential instrumentation input.

The fundamental difference between the common, single-stage differential input, and the instrumentation input lies in the common-mode rejection characteristics of the circuit. True, most other parameters will measure the same (ex. frequency response, harmonic and intermod distortion characteristics), but in R.F. or long cabling environments, the instrumentation input is far superior.

>Pin 1 of the XLR is *shield* ground. You may not want to connect this
>at both ends, even in balanced systems, because it can cause a frame
>to frame ground loop. Grounding it only at the console end (or better
>at the patch field) is usually best.

I've found this to be true too. Centerpoint audio grounding seems to have fewer problems in hostile environments.

>Pins 2 and 3 are the hot balanced pair, which is which doesn't matter
>except for phasing. Traditionally, pin 2 gets the red wire and pin 3
>gets the black, but as long as you wire both ends the same, it won't
>matter (until somebody else has to come along later and repair one
>end, then he'll probably wire it standard and you'll have a phase
>reversal).

Ahhh...the never ending story of how pin 3 became high in the first place! I suspect that in the U.S. it had become a "standard" among audio engineers before it became an ISO or AES international standard.

>With the 1/4-inch plugs, the tip is always hot and the ring is
>ground (which doubles as the shield connection).

Unless it's a "differential" or "balanced" device. Then, the three circuit 1/4" plug is "tip-ring-sleeve," with the sleeve grounded or

left floating, depending on the system ground convention.

-Paul, N9AZ

454. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: horowitz@nosc.mil
Message-ID: <1996Jan17.204946.3170@nosc.mil>
Source record: 107990

The camper modules are a high-current diode, meant to ensure that the car's oem battery doesn't see the (separately wired) "camper" load. The purpose is to ensure that the battery which motivates the starter, doesn't get drained too low by camper use.

455. Re: Need Pinout 4CX250K (coaxial base)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: josef.gergetz@siemens.at
Message-ID: <4diqfu$nv6@rdserv.sie.siemens.co.at>
Source record: 108056

tantonr@aol.com (TANTONR) wrote:

>Does anyone have the pinout for the coaxial base 4cx250K? I could also
>use operating parameters (or "same as 4cx250B" or "same as 4cx250R" or
>whatever).
>Have them in a surplus 432 cavity PA I just picked up. Thanks!
>VE3IEY
>TantonR@aol.com

Hi,
I don't know the 4CX250K but a lot of other coaxial tetrodes.
I think the pinout of this tube will be similar to the "usual" coaxial
pinout:
(Seen from the "lower" end)
Heater, Heater/Cathode, Control Grid, Screen Grid, Anode.
The electrical parameters will be the same as 4cx250b, maybe
the frequency-range is bigger because of the coaxial pinout.

73, Josef - OE6JGD
josef.gergetz@siemens.at

456. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: pbutlalj@ia.net
Message-ID: <4di0fb$2ra@hera.ia.net>
Source record: 108057

In article <NEWTNews.821723304.9289.Pbutterf@butter-pc.ess.mc.xerox.com>,
butte.wbst129@xerox.com says...
>
>
>I am interested in increasing the battery capacity in my pick up truck to
>permit it to run equipment for a longer period of time without the engine
>running.

>I've considered the following options, but would like comment, feedback and
>suggestions.
>
>1.
>Install a deep-cycle (e.g. marine) battery in place of the existing one.
>Would select one that fit in the available space and still had the
>"cold-cranking amps" rating of the existing one.

Difficult to find a deep cycle battery that would have the cold
cranking capacity of an automotive battery. They are basically two
different animals. The deep cycle is meant for a steady load over a period
of time and the automotive is designed to be loaded severly for a short time
and recharged rapidly.

>
>2.
>Install a second conventional battery in parallel with the existing one.
>Don't know what kind of balancing might have to be done here.

With this one it would take longer to kill the battery of the
vehicle but it would still happen. Probably some night around 2 or 3 am and
in the wrong part of town. OOOOO Bad. :-(

>
>3.
>Install a second battery with a manual switch. High Current switch=$$?.
>Would it have to be at the battery instead of near the dashboard?
>
>4.
>Power the rig from a separate lead-acid or gel-cell with trickle charger
>powered by an ignition-switched circuit. (I already have gel cells with
>about 20 amp-hours of capacity) Don't know how to construct this circuit to
>limit current if battery were discharged. (Yeah, I'm ignorant,but
>learning...)

This very last part is REALLY good. And a combination of 3 and 4 is
probably the best thing to do.

Here is what some of the people around here do.

Go to a travel trailer dealer and ask for an "Auxilary Battery Isolator". This unit is a 3 terminal unit that isolates two batteries from each other on a vehicle so that one will not drain the other as it is used. This is basically a good sized heat sink with two diodes on it.

The two diodes have their anodes tied together. The terminals may be labeled something like Alternator, Battery 1 and Battery 2.

Disconnect the heavy wire at the alternator and connect it to the terminal marked Battery 1 or it's equivalent. Next run a wire of equal gauge or heavier from the alternator where you just removed the wire to the isolators Alternator terminal. At this point the vehicle is still wired like it was before but there is a diode between the alternator and the battery. This will not affect the vehicle.

Now here is the part that will help you out with the radios.

Mount a battery someplace on the vehicle in a battery tray or a battery box that can be tied down SECURELY. You do not want the battery just bouncing around in the vehicle and bumping into things or spilling.

The negative post of this battery, which could be a deep cycle battery, goes to the frame or chassis of the vehicle. Someplace that is at the same potential as the negative post on the first battery. Connect a wire to the Battery 2 terminal on the battery isolator. This should be a fairly heavy wire as it will be the one carrying the charging current to the second battery. Connect the other end of this wire to the second battery positive terminal.

What this does for you is it gives you two batteries on one vehicle that are electrically isolated from one another. Tap into battery 2 for the power to your radios and any other acessories that you want to run on your vehicle.

The operation is totally automatic and one other benefit of this is that if Battery 1 should die for some reason. Now you can give yourself a jumpstart by connecting positive of battery one to positive of battery two with a jumper cable and starting your vehicle.

It really shocks someone the first time they see someone jumpstarting their own vehicle from their own vehicle. :-)

>
>Thoughts anyone?

Well I guess that is what I would think about Paul. :-)
Good luck and I hope this helps you out.

--
Allan Butler KA0IES
ajbutler@ia.net

457. Re: Xpert Needed:Zener Diodes --- Can you make what you dont have?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4dhpb3$eej@hpscit.sc.hp.com>
Source record: 108058

In article <mzenierDL8KLp.6L0@netcom.com>,
Mark Zenier <mzenier@netcom.com> wrote:
>in <4d4ik0$po5@newsbf02.news.aol.com>, PFZouave wrote:
>: My problem is this: The processor is spec'd to work down to 2.5 volts. If
>: I add a safety margin and say the minimum before reset should be 3.o
>: volts, 3 - 0.7 leaves me with a required zener voltage of 2.3 volts. I
>: have several catalogs laying around here, and can't find any zeners less
>: than 3 volts.
>
>The TL431 shunt regulator IC (also called a programmable zener) is
>good down to 2.5 volts. It doesn't like much parallel capacitance,
>but otherwise looks like a zener.

Good suggestion. Let me add that the capacitance requirement is actually
EITHER less than 1000 pF. OR MORE than 4.7 uF., according to the
data sheet. I found that the 4.7 uF. MUST be a tantalum not a ceramic,
or it will oscillate. It depends on the ESR of the tantalum for stability.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

458. Re: Remote Operating of HF station (VHF or Telephone)?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan17.184525.27643@ke4zv.atl.ga.us>
Source record: 108059

In article <30FC04FB.E47@soback.kornet.nm.kr> Butch Weber <bweber@soback.kornet.nm.kr> writes:
>Hello, I am looking for any information on remote operation of my HF rig.
>I have a Kenwood TS-440S/AT with a CL-36 with 40 meter attachment at
>work and live in an apartment. I know I have seen articles in the past
>about remote operations but I am in Korea and don't have access to all
>my past magazine articles. I am using a 486 DX2-66 and would like to
>interface the computer as well. I haven't seen anything on the Web that
>relates to remote operating. If there is and I missed it could someone
>please pass the information. Thanks,

QST just did a feature on this very subject. I'll just give a quick condensed generic version. You need remote software for your PCs. You can use PCAnywhere or Remote2 or something similar. These programs let one computer control another just as if you were at the keyboard and screen of the controlled computer. Now all you need is rig and antenna control software. There are a number of packages to choose from. You run that on the controlled PC, just as if you were sitting at its console, and control the rig with the package. You'll need a second phone line and a phone patch to get audio in and out of the rig to you at home. That's it.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

459. Re: Want simple 0.5-1W amp design for 6m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <4djgl2$26ba@lamar.ColoState.EDU>
Source record: 108060

Koellner, Guenter (guenter.koellner@oen.siemens.DE) wrote:
: why don't you use the suiting mitsubishi module M57735, it is 0.2W in and
: 22W out. And you never saw a simpler design like this. The only thing you
: have to add is a TX/RX switch...

There's also a few decoupling caps and some inductors, but it is
easier than a transistor circuit.

: | Hello, I would like a simple RF amp schmatics 0.5-1W for the 6m band. Any
: | designs?

Try the ARRL handbooks (my '87 edition has a 6m xmit converter, you
could take the amp from that and have about 3 watts)
or the ARRL's 'Solid State Design for the Radio Amateur', which would
help you design your own...

Most importantly: Have fun,
73,
Galen, KF0YJ

460. Re: QST Automatic Tuner Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4dhm06$16e@maureen.teleport.com>
Source record: 108061

I agree with Tom that a person makes a choice either to publish his/her findings and share the information with all others, or to keep part or all secret in order to maximize the profit from it. I've done both, with QST articles and with proprietary software. I don't think anyone can reasonably fault a person for making either choice.

What's causing a problem is the publication of the article (and a similar keyer article a while back) which looks, walks, and quacks like a construction article but isn't. A critical component is available only from the author and can't be duplicated at home. In my mind, this makes disqualifies the article as a construction article and makes it an advertisement.

When most of us decide to go the for-profit route, we have the expense of selling our goods. Advertising is one way, with QST ads costing about $4000 for a black-and-white page. The question for us ARRL members is whether we think this is an appropriate way to use editorial space in QST or to give away valuable advertising. Indeed, it does this regularly as "new product announcements". But should the article have been presented as a new product announcement rather than regular editorial content? And was it selected for inclusion using the same criteria as new product announcements? Do we ARRL members want our magazine (yes, our magazine) to use its editorial space this way? Let your director know what you think.

73,
Roy Lewallen, W7EL

461. Re: Need help with Motorola sm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4dj9cf$dbv@newshost.lanl.gov>
Source record: 108062

I wish you'd asked before buying the Motorola (Batwing)
speaker-mike. The stock Radio Shack plug-in version is on the
order of 20 bucks which is probably less than you'll spend on
the motorola version not counting labor and time of course.
The Motorola speaker is probably 40 ohms or so which means it
will have low and unsatisfactory audio output.
Wire the speaker leads directly to a 1/8 inch phone plug.
The PTT and Transmit Audio for the HTX-202 are both on one line
to the mike jack, the smaller jack. Try wiring the PTT switch
in series with the motorola mic element going toward the
miniature plug. If this doesn't make the rig transmit when the
PTt switch is pushed, try putting a 10K to 20K resistor in
parallel with the microphone element.

```
Mic element
... PTT switch
| |-----x--------/--------------------o tip of min. plug
| |-----x-----------------------X Shield/gnd of min. plug
...
x = points to attach 10-20K resistor if needed
```

```
--
|-------------------------------------------------------|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
|-------------------------------------------------------|
```

462. Radio REPAIR resource?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4dj857$dbv@newshost.lanl.gov>
Source record: 108063

Is there such a thing as a radio *repair* newsgroup ?
I am particularly interested in a schematic/service info for
a Uniden CR-2026 SW receiver at the moment.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

463. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.35.001FB7AC@azstarnet.com>
Source record: 108064

In article <4di0fb$2ra@hera.ia.net> pbutlalj@ia.net (Allan Butler) writes:
>From: pbutlalj@ia.net (Allan Butler)
>Subject: Re: How to add battery capacity to a vehicle?
>Date: 17 Jan 1996 05:12:11 GMT

>In article <NEWTNews.821723304.9289.Pbutterf@butter-pc.ess.mc.xerox.com>,
>butte.wbst129@xerox.com says...
>>
>>
>>I am interested in increasing the battery capacity in my pick up truck to
>>permit it to run equipment for a longer period of time without the engine
>>running.

I didn't see the original post, so I'll tag along here.

If your pickup truck happens to be a GM model that had a diesel option, you might find that you can buy a second battery tray from the dealer. (The diesels used two batteries in parallel) My 1986 4X4 Suburban did. The mounting holes were already in place too.

Regards, Wes -- N7WS

464. Re: BFO Project Questions ?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Francis Flynn <fflynn@together.net>
Message-ID: <4dhra2$84n@bristlecone.together.net>
Source record: 108065

Generally, yellow is used to mark the 455khz IF Xformers, black is the IF output and red is the local oscillator. I used to work in a consumer electronics repair shop and this is how most japanese comsumer type receivers are. Every manufacturer can do as they please, so, take this advice with that grain of salt. One can also deduce the function of a transformer or coil by looking at it's position in the radio's circuit. If it looks like an intermediate stage, as in there are some circuits before and after it, then you most likely have an IF transformer. In most cheap radios there is bound to be an IF transformer somewhere, if the one you find at first doesn't work, try some others.

Fran KM1Z

465. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4dj0qa$78a@ixnews5.ix.netcom.com>
Source record: 108066

In <4di8v6$d37@maureen.teleport.com> w7el@teleport.com (Roy Lewallen) writes:

>
>Try "Lemonized QSO" by Bob Culter, N7FKI and Wes Hayward, W7ZOI
>in QST, March 1992, p. 18. I dunno if I'd power it with a
>grapefruit, though, it might put the squeeze on the transistor.
>
>73,
>Roy Lewallen, W7EL
>

Then again, for long-winded QSO's I'd use a grapefruit. After all, it's well known that a grapefruit will supply more juice...

>(Yes, I know what I'm probably starting here, and apologize in
>advance. . .)
>

Apology insufficient. Please send money.

- Jeff, WA6AHL

466. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan17.031054.24105@ke4zv.atl.ga.us>
Source record: 108067

In article <4dggv1$3vm@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>Hi Gary,
>>As I noted, core saturation plays no part with 1 kV/nS pulses. They
>>*capacitively* couple between the transformer windings, unless you
>>use a ferroresonant or Faraday shielded transformer of course. Note
>>that's *nanosecond* not *millisecond*. Transients almost by definition
>>are *very* fast pulses. They usually don't pack a lot of energy (which
>>is good or little bitty MOVs would be of no value), and don't do the
>>damage themselves in line operated equipment. What they do is serve as
>>junction puncturers or "ignition" sources. It's the ordinary line current
>>that then does the damage by following the path created by the transient.
>>
>
>If the pulse is capacitively coupled, how does the turns ratio step it up?

It doesn't, nor does it need to, a megavolt transient is quite sufficient
in itself.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

467. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4dj4c0$dml@ixnews7.ix.netcom.com>
Source record: 108068

I would use 2 separate batteries. My father set up a simular system in his truck to use with an inverter and power tools. You can purchase a charging device from any RV shop to charge the RV batteries from the truck charging system. This has the advantage of never chancing running the truck battery down with external devices. Also he rigged up a solonoid to be able to start the truck from both batteries if the truck battery is low from leaving the lights on etc.

I don't have any experience with GEL cells, but if you have room under the hood for a small automotive battery I would use that.

Good Luck

Sparky KI5GY

In <NEWTNews.821723304.9289.Pbutterf@butter-pc.ess.mc.xerox.com>
butte.wbst129@xerox.com writes:
>
>
>I am interested in increasing the battery capacity in my pick up truck
to
>permit it to run equipment for a longer period of time without the
engine
>running. Specifically, I would like to be able to leave my remote
>controllable dual band rig on as a cross band repeater without coming
back to
>a dead battery. I've considered the following options, but would like

>comment, feedback and suggestions.
>
>1.
>Install a deep-cycle (e.g. marine) battery in place of the existing
one.
>Would select one that fit in the available space and still had the
>"cold-cranking amps" rating of the existing one.
>
>2.
>Install a second conventional battery in parallel with the existing
one.
>Don't know what kind of balancing might have to be done here.
>
>3.
>Install a second battery with a manual switch. High Current
switch=$$?.
>Would it have to be at the battery instead of near the dashboard?
>

>4.
>Power the rig from a separate lead-acid or gel-cell with trickle
charger
>powered by an ignition-switched circuit. (I already have gel cells
with about
>20 amp-hours of capacity) Don't know how to construct this circuit to
limit
>current if battery were discharged. (Yeah, I'm ignorant, but
learning...)
>
>Thoughts anyone?
>
>Regards,
>Paul
>KB2TCG
>

468. home page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <30FCC92B.36EB@flinet.com>
Source record: 108069

```
check out AB4BE's home page at http://www.flinet.com/~duane
```

469. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4di8v6$d37@maureen.teleport.com>
Source record: 108070

I remember as a school project my Grandfather and I built a XMTR that was powered by a penny and a quarter inserted into a grapefruit. Well, my son needs such a project for school and my Grandfather is no longer with us. Can some kind person point me in a direction where I might find plans for this XMTR?

Probably not the one your grandfather built, but. . .

Try "Lemonized QSO" by Bob Culter, N7FKI and Wes Hayward, W7ZOI in QST, March 1992, p. 18. I dunno if I'd power it with a grapefruit, though, it might put the squeeze on the transistor.

73,
Roy Lewallen, W7EL

(Yes, I know what I'm probably starting here, and apologize in advance. . .)

470. Announce: New RF Design sw for Windows

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Jon Jenkins <academic@onthenet.com.au>
Message-ID: <4djn7l$rqt@diablo.OntheNet.com.au>
Source record: 108071

RF: The Analog Analysis Program

by Academic Technologies

RF is a new inexpensive circuit simulation sw package for
Windows, Windows 95 and Windows NT. It is primarily
intended for Radio Frequency design but is applicable
to all frequencies.

Come and have a look, visit out Web site at:

http://www.onthenet.com.au/~academic/Welcome.htm

or download the readme.txt and rfdemo.zip demo
version from:

ftp.onthenet.com.au in /pub/acdemic/

or mail us at:

academic@onthenet.com.au

Briefly RF has the following functions:

Tools
Convert between S,Y,Z and ABCD two port parameters
Design Butterworth and Chebichev Filters
Design and analyse coil and wire inductors
Sophisticated Microstrip design and analysis
Design parallel, series resonators and LC filters
Complex/Polar calculator

Compnents
Capacitors (includes parasitics)
Resistors (includes parasitics)
Inductors (Q included)
Curve fitted S parameter devices and whole circuits (fit types:
rational, polynomial, spline, ls, linear)
OpAmps
Transmission Lines (ideal and lossy, open and shorted)
Transformers (ideal and non ideal, leakage inductances and resistances)
FETS (all parasitics)
Tapped Inductors (Q and parasitics)
Beta controlled current sources (all parasitics)
VCCS
Mutual inductors (all parasitics)
Source and Loads
DC source

Analysis Facilities
Swept frequency (Full and Nodal)
Single frequency component tolerance
Swept frequency component tolerance
DC bias point analysis
Pulse analysis (Fourier simulated)

Text Output
Transducer gain
Linvil c stability
Stern k stability
Input impedance
Output impedance
Input admittance
Output admittance
Voltage gain
S11, S12, S21, S22 S parameters
Input reflection coefficient
Output reflection coefficient
Maximum transducer gain possible
Source admittance/impedance to obtain Gtmax
Load admittance/impedance to obtain Gtmax

Graphical Output
Voltage Gain
Transducer gain
Input impedance
Output impedance
S11, S12, S21, S22 S parameters
Input reflection coefficient
Output reflection coefficient
Pulse time trace
Multiple "tagged" plots
Autoscaling or manual scale
Auto cursor tracking (warps to and displays the nearest
points) or absolute
Points or line traces

Name: Academic Technologies Bongaree Rd,
Voice/Fax: 61-7-55-905-008/013 Terranora,
Inet: academic@onthenet.com.au NSW, AUSTRALIA 2486
---

471. Re: X-tal 1.36MHz - looking for

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <821870741snz@lfheller.demon.co.uk>
Source record: 108072

In article <DLAH3t.A60@alchemy.chem.utoronto.ca>
fbures@alchemy.chem.utoronto.ca "Frank Bures" writes:

> Desperately looking for 1.36MHz Crystal I need to repair a
> mass spectrometer. If someone has one at home, please help.
> Will pay. Close enough frequency acceptable.
> I could also do with a 21.76MHz one.

Getting crystals made isn't at all expensive. I can get custom crystals
in about a week here in the UK for less than #10.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

472. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4djhh1$c9u@newsbf02.news.aol.com>
Source record: 108073

In article <1996Jan17.031054.24105@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>It doesn't, nor does it need to, a megavolt transient is quite sufficient
>in itself.
>
>

How does a megavolt ultra short rise time transient make it past the line bypass caps, terminal blocks outlet, fuse box and so on?

73 Tom

473. ***ONE OF THE BEST HAM WEB PAGES ON THE INTERNET. TRY IT OUT!!***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: David Mclean <dmclean@dfw.net>
Message-ID: <4dk7io$kd1@fnord.dfw.net>
Source record: 107991
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

Hello all:

In the last message that I sent over usenet I forgot to include my
url for my web site. The URL is "http://www.dfw.net/~dmclean". I have
many things on my web page. Here is a list of many things:
1. Links to other ham stuff (QRZ,FCC,ARRL,ETC).
2. List of sites that have radio mod's.
3. A swap page to exchange junk on!
4. Repeter list for D/FW area (other states comming soon!)
5. List of web pages made by other ham.
6. Page to view all comments about my page (Not yet working but comming)
7. ***A fun place to be!!!***

If you have a web page or want to send a comment about my page please
send mail to dmclean@dfw.net. I Have more plans in work for the page. IRC
channel comming for talk. Keep you ears open!

--
David Mclean
From The World of Hamradio
KC5NNV is Clear!

---

474. WTB:Brown Bros Paddles for parts.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: kovar@zeus.ia.net
Message-ID: <4dlrc8$hb8@hera.ia.net>
Source record: 107992

Hi there!

My BROWN BRO BTL-A paddle got dropped and broke some parts

on it. Need one paddle adjustment screw, 2 red paddles and red

plastic paddle pivot block in rear.

Please help me if you have parts so I can get DITTY BOPPING AGAIN!

Jack Kovar
Ke0AX
319-378-9852
Toddville,Ia

475. Re: How to add battery capacity to a vehicle?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4dkrd7$2v1@newsbf02.news.aol.com>
Source record: 107993

I hope everyone remembers to use fuse links at each end of the accesory battery line. Nothing worse than getting in a wreck (or even just having the insulation get cut) and being in a burning vehicle!

And secure the battery well. The damn things hurt when the hit someone in the head. Gary had a good point about starting current of deep cycle batterys.

73 Tom

476. WANTED: HC25/U or HC50/U Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4dk3c5$bpg@ixnews8.ix.netcom.com>
Source record: 107994

Need crystals between 71.52 mhz and 72.487 mhz. I believe they are the sizes I listed in the "Subject" line. They are military and are marked CR83/U. They measure, as near as I can tell with the cheap calipers I own, about the same size as the HC25/U and HC50/U crystals.

Thanks!

John B. Lawrence
KE6TGN

477. Re: Need AA-size dummy cell/bridge

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: "Gary KF9CM turtle"@wwa.com
Message-ID: <4dlbd5$45@kirin.wwa.com>
Source record: 107995

> krin135@aol.com (Krin135) writes:
> Radio Shack used to include two dummy bridges with each of its CB walkie
> talkies just for this purpose. Don't know if they still have them- my vote
> would be for a brass nut and bolt combination that has been cut to the
> right size.
>
> "We must All hang together, else we most assuradly will Hang separately"
> Benjamin Franklin, 1776
> Charles S. Krin, DO FAAFP KC5EVN
>
>>>>
Go down to your local auto parts store and buy a 5/16 stud of a proper length.
I think might fit the bill.

Good luck....Gary KF9CM

478. QST UHF Noise generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: Allen Wallace <allen@dtint.dtint.com>
Message-ID: <4dlv6o$bni@itchy.itsnet.com>
Source record: 107996

I!m trying to build a noise source, based on the QST article of about 2 years ago.

I!m too cheap to buy a NoiseCom diode, and I!d like to try a 1N21 microwave diode instead. I also understand that the Base-Emitter of microwave bipolar transistors can generate significant Excess Noise.

Does anyone have any experience with generating noise with these devices? How might they compare to the NoiseCom diode with respect to ENR and frequency?

The final use for the noise source is to amplify the noise with 6 or so MMIC amplifiers and use the noise with my spectrum analyzer to measure filter response, etc, up to 2 GHZ. The noise hopefully should be flat across the spectrum.

73,

Allen Wallace N7CGH

479. Needed: uA757 IC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <821989353.6913@pinetree.microserve.com>
Source record: 107997

After troubleshooting my rig for a tricky receiver problem, I've determined that the IF amplifier IC has failed. The chip is a Fairchild uA757 DP.

Unfortunately, there doesn't seem to be a substitute for this in the general replacement semiconductor lines. If anyone has one or two of these that they don't need, I'll buy them. Alternately, can anyone recommend a Fairchild distributor for this part, or perhaps a cross reference to another device?

73,
Jack WB3U

480. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4dkno4$i1n@hg.oro.net>
Source record: 107998

> A moment's work with a butane soldering iron,
>and the suck-out magically disappeared. Case closed,
>collect fee. :-)

gary, Gary, GARY --

Locate the problem in a few moments, but dammit, man, spend HOURS
hunched over the books in "analysis". We get paid by the HOUR, man,
don't go bollixing up this consulting racket we've got going!!

{;-))

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen. Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

481. Re: ***ONE OF THE BEST HAM WEB PAGES ON THE INTERNET. TRY IT OUT!!***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: mbv@ti.com
Message-ID: <4dlre7$mkr@superb.csc.ti.com>
Source record: 107999
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

In article <4dk7io$kd1@fnord.dfw.net>, dmclean@dfw.net says...
>
>Hello all:
>
> In the last message that I sent over usenet I forgot to include my
>url for my web site. The URL is "http://www.dfw.net/~dmclean".
~~~~~~`
I tried this URL yesterday and again this morning with no results. Netscsape
keeps contacting the host forever. Please try your page from another site and
see if it can be accessed.

Ken Durham K5MBV mbv@ti.com
~~~~~~

482. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4dkno3$i1n@hg.oro.net>
Source record: 108000

>>insert an emitter follower into the
>>power line. The base of the emitter follower is biased from a
>>resistive voltage divider attached to the collector (which forms
>>the "input"), and a fairly large filter capacitor in parallel with
>>a smaller one is attached from the base to ground.
[snips in consideration of bandwidth]

And if the collector has the slightest bit of inductance to an AC short to ground (i.e. like a few inches of wire or board trace) you are gonna have the goldurndest grounded base oscillator you ever HAVE seen.

Old trick is to put just a few ohms (like 20-50) of real resistor between the capacitors and the base. Cuts down the chance of oscillation to that of winning an argument with the spouse -- slim and none.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen. Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

483. Re: Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4dkf20$dju@cloner3.netcom.com>
Source record: 108001

There is a guy in AZ somewhere that advertises a book called CB to 10 mtrs, I see the ad alot. I wrote for a catalog of his offerings about a year ago and he seemed to have alot of conversion information. Check the ham mags for his ad.

73, Tim

484. List Of Stamp Applications [960118]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: cj@algonet.se
Message-ID: <4dlv7u$19i@prometheus.algonet.se>
Source record: 108002
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
_____________________________________________________ _____
_____________________________________________________// L.O.S.A //_____

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
List Of Stamp Applications Date: 960118
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

Contents

_____________________________________________

1.0 What is BASIC Stamp ?
1.1 What is L.O.S.A all about ?
1.2 How can I contribute to this list ?
1.3 Where could I find L.O.S.A ?
1.4 List of contributions.
1.5 Credits and other things.

_____________________________________________

1.0 What is BASIC Stamp ?
-------------------------

This is being written for people who have no idea of what a BASIC
Stamp is...

BASIC Stamps are small reprogrammable single board computers (SBC)
that run BASIC programs and are made by Parallax, Inc. in US. At
first glance, they may seem fairly minimal - and in fact, they are.
But with software that fully utilizes all available hardware, the
Stamps give you powerful features - without the cost of hardware.

Their low cost and simplicity make the Stamps perfect for many
prototyping and control applications. It's suitable for electronics
hobbyists as well as electronics professionals in many different
areas.

Typical application areas for BASIC Stamp's are...

- General electronics
- Home automation
- Robotics
- Mini PLC
- Education
- Prototyping
- HAM related applications
- Special effects in films
```

- Industri control
- Geological instruments
- Computer peripherals
- Scale model hobbyists

As an talent engineer and technical writer expressed it...

- BASIC Stamp is the 555 of the 90's !

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remeber it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share that's even better but it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------
Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
```

Code available: YES/NO
Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

You could soon always find the latest version on the following URL...

http://www.algonet.se/~cj/losa.html

1.4 List of contributions
---

001 Robo-Cat
002 Logic Rudder
003 Interfacing MAX186 8 channel 12bit A/D
004 Scrolling LED Sign
005 Tone Decoder
006 Pager
007 HexWalker Mobile Robot
008 Robo Bug
009 EXPBOT Robot controlled by Stamp
010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer
016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader

```
======================================================================
Title : Robo-Cat [# 001]
======================================================================
Date : 950807
Author: Gustavson Guy W.
E-mail: GWGUSTAVSO@mpg.norstan.com
----------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : http://www.winternet.com/~bigfoot/cat.html
----------------------------------------------------------------------
Description :

My cat, Kesha, was recently diagnosed with Heptic Lipodosis. Or
"Fatty Liver", basicly what this means is that for some reason he
stoped eating and his liver started converting body to useable
sugars. The fat deposists biuld up in the liver and cause severe
liver damage. Because the liver isn't working well the cat feels
crappy and wants to eat even less. The treatment for this disease is
to run a tube down down the cats nose into his stomach, or a PEG
tube through the abomine wall into the stomach and feed the cat a
liquid diet this way.

I love my cat, but I can't be there every three hours to feed him
through the tube for a month. Something about work and deadlines and
such. So I went to a local supplus house and got a tiny motor driven
pump, a case, some switches, a micro switch, ect...

The micro switch is mounted such that the switch trips for every
rotation of the pump shaft. The stamp turns on the pump for on a
single rotation at intervels programable from the controll switches
on top. An alarm buzzer and LED flash if the pump fails to run for
any reason. The unit is programable for 9 differents deleviery rates.

Now he gets a slow continuious feeding and he seems to tolerate this
better than the 100ml feeding every three hours.

======================================================================
Title : Logic Rudder [# 002]
======================================================================
Date : 950812
Author: Christer Johansson
E-mail: cj@algonet.se
----------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : http://www.algonet.se/~cj/filelibrary/BS1-IC/
----------------------------------------------------------------------
Description :
```

Many of the new and very realistic flight sims available today needs rudder to let you get full control. This one uses a digital pot from Xicor (X9104) and 10 other components. Connects to a standard IBM-PC game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right and to indicate when rudders move there is a red LED that lights up when you press the micro switches and to indicate center there is a green LED. If you press the both micro swithes the rudder will automaticly return to center position.

There is a trim pot to set the desired step rate from slow to very fast and the Xicor pot has 99 steps wich gives a fair resolution.

```
==========================================================================
Title : Interfacing MAX186 8 channel 12bit A/D [# 003]
==========================================================================
Date : 950925
Author: Helmut Fligge
E-mail: h.fligge@asco.nev.sub.de
--------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A
--------------------------------------------------------------------------
Description :
```

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via RS232 2400bps the stamp is asked to measure channel numbern. After conversion the result will be returned to the host computer as an ascii string (0 .. 4096). Conversion rate is about 4 measures per second.

```
==========================================================================
Title : Scrolling LED Sign [# 004]
==========================================================================
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org
--------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html
--------------------------------------------------------------------------
Description :
```

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the prototyping area of a Basic Stamp rev D. A scrolling alphanumeric message moves one pixel at a time, just like real scrolling LED signs, except this one only displays one full letter or portion of two letters at a time as the message moves by.

```
=============================================================================
Title : Tone Decoder [# 005]
=============================================================================
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org
-----------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html
-----------------------------------------------------------------------------
Description :

Listens for telephone touchtones, displays phone numbers on LCD
screen and echos them out RS-232 port. Circuitry fits in prototyping
area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

=============================================================================
Title : Pager [# 006]
=============================================================================
Date : 950928
Author: Don McKenzie
E-mail: donmck@tbsa.com.au
-----------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : ftp://ftp.parallaxinc.com
-----------------------------------------------------------------------------
Description :

This program for the Basic Stamp is used to monitor 4 hardware
signals. If a change takes place, (after testing for a false trigg-
er) then a cheap 2400 baud MODEM is used to dial into a Telecom
Alpha-Numeric pager. It leaves a message which consists of a 2 digit
I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110"
means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a
short period, then hanging up, the Stamp will dial your Pager and
report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user
wishes to add enchancements such as "Multiple Ring-In's" say within
a minute, for a command selection, there is plenty of program space
left.

=============================================================================
Title : HexWalker Mobile Robot [# 007]
```

```
========================================================================
Date : 950929
Author: T. R. Thornton
E-mail: mandtsys@ix.netcom.com
------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A
------------------------------------------------------------------------
Description :

HexWalker is a six legged mobile robot that is controlled by a BASIC
Stamp or BS1-IC, and driven by three servo motors (similar to Futaba
S148). It is the simplest walking machine architecture that can walk
forward, backward, and turn left or right.

========================================================================
Title : Robo Bug [# 008]
========================================================================
Date : 951003
Author: David Novick
E-mail: dkn@cimar.me.ufl.edu
------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn
------------------------------------------------------------------------
Description :

Using two stamps, a robot with six legs (2 degrees of freedom each)
was able to walk and turn (at this stage, not very gracefully).

========================================================================
Title : EXPBOT Robot controlled by Stamp [# 009]
========================================================================
Date : 951009
Author: Marvin Green
E-mail: marvin@agora.rdrop.com
------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it
------------------------------------------------------------------------
Description :

This program allows a cool robot to move abound a room in search of
light. Like a moth. Simple program changes can dramatically change
the robots behavior.
```

```
=========================================================================
Title : Andrews Ever Evolving Lego Robot [# 010]
=========================================================================
Date : 951119
Author: Andrew H. Hochheimer
E-mail: softarts@ciaccess.com
-------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: YES
Filename : N/A
URL : http://www.wincom.net/~softarts
-------------------------------------------------------------------------
Description :

Currently the robot can only navigate to the brightest light source
in a room. It's current operation mode has four major steps: - Scan
a 180 Degree Field of "Vision" taking light level readings, and
determining the brightest direction of light. - Decide if it needs
to turn left, right, or continue moving forward. - Check for colli-
sion with an object while moving, if a collision occurs, display the
total travel distance on the display - Move forward for 1.5 Seconds
and then repeat the process.

Currently I am using Two Futaba FP-S128 Servos (any RC Car Servos
would work) one to sweep it's "sensors" form left to right, and one
to "stear" the robot.

You can see pictures and more information on my homepage, just
follow the lego robot link.

=========================================================================
Title : Factory Monitoring System [# 011]
=========================================================================
Date : 951120
Author: Paul Willemse
E-mail: pjwill@merlion.singnet.com.sg
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author
-------------------------------------------------------------------------
Description :

The system presently consists of 4 Basic Stamp units. Each monitors
up to 5 inputs. The inputs are 'digital' (switches) and/or analog
(temp, airflow, current, etc using commercial sensors). All stamps
communicate the results via serial mode to a Macintosh (Yes a Mac!)
where the results are graphically displayed and monitored. Alarms
are set for certain conditions.

The transmission is simple, one way only. Each stamp sends the info
at a 'random' interval not exceeding 2 seconds. The message format
```

is fixed, the Mac will throw away any conflicts in case two or more stamps transmit at the same time. BTW this happens very seldom. The max time any stamp can be 'absent' from the chain before an alarm is raised is six seconds (failure, transmission collisons, etc). This is controlled by the Mac.

The 'system' is presently in beta test, the client wishes to expand up to 20 stamps. At that point we will likely use the BS1-IC or BS2-IC on custom boards located around the facility.

Code is available upon request (e-mail) partial, some is proprietory to my client.

```
==========================================================================
Title : Wave to the Cats/Desk Temperature [# 012]
==========================================================================
Date : 951121
Author: Paul Haas
E-mail: paulh@hamjudo.com
--------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: Yes
Filename : See web server
URL : http://hogwild.hamjudo.com/cgi-bin/stamp
--------------------------------------------------------------------------
Description :
```

The Stamp has a serial connection to web server, a cardboard hand, a servo motor to move the hand, and a DS1620 thermostat chip to measure the temperature. The web server can request the current temperature or start the hand waving. See the web page for the source code for the temp and the web server.

It's mostly useless. The cats ignore the hand. A few people find it entertaining.

```
==========================================================================
Title : Gamer's Die Roller [# 013]
==========================================================================
Date : 951122
Author: Larry Tremblay
E-mail: ltremblay@domus.com
--------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: N/A
Filename : N/A
URL : N/A
--------------------------------------------------------------------------
Description :
```

The Gamer's Die roller is a little thing I am putting together as my first Stamp Project. The Roller allows cumulative rolls of n dice up

to 256 sides, so long as the sum does not exceed 99,999,999(!)

It uses two 74HC161 4 bit counters cycling at 1MHz to draw random numbers off of. Input is achieved via a Grayhill model 38 keypad and a 74C922 keypad decoder. Display is on a Siemens PDSP-2111 8 character smart display (5x7 LED characters) fed by two 74HC164 serial to parallel shift registers cascaded so I can use Shiftout to feed 16 bits of control + data off of 2 pins.

The code is very simple, the most exotic part being the random number generation. In a nutshell, it is:

```
Begin Loop
S = 8 bit number drawn from the counter (random)
if S < (255/N) x N (integer divide, N is number of sides on die)
exit Loop
End Loop
```

This gets (pseudo) random numbers whose average is not skewed downwards by the counter's max of 256 (i.e. a 100 sided die is not affected by the extra 56 in the count maximum)

Using gamer's dice notation, (5d6 = sum of 5 six sided dice, 3d10 = sum of 3 ten sided dice), the user can input whatever combination they wish, including just 'd6' for one six sider. The keypad I have has removeable keycaps with legends, so I have 0-9 plus 'd' and '=' on them.

As noted earlier, since I am using an 8 bit counter, the maximum die size is 256, although that could be fixed easily by sampling two, three or more times for each die.

Anyhow, that's it. When the code is done and debugged, I'll be happy to e-mail it to any who want it.

```
=========================================================================
Title : Stamp II Serial I/O [# 014]
=========================================================================
Date : 951128
Author: John Hansknecht
E-mail: Hansknec@cebaf.gov
-------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: Yes
Filename : HAL01.bs2 and HAL01.bas
URL : ftp.parallaxinc.com
-------------------------------------------------------------------------
Description :
```

A bare-bones demonstation of 2 way serial communications between a PC running Qbasic and 1 or more Stamp II's.

```
=========================================================================
Title : Voice and CW Fox Hunt Transmitter IDer [# 015]
=========================================================================
Date : 951221
Author: Sam Guccione
E-mail: sguccion@outland.dtcc.edu
-------------------------------------------------------------------------
Stamp model : Counterfeit Stamp
Code available: Yes
Filename : Revision of S. Edwards MORSE program
URL : N/A
-------------------------------------------------------------------------
Description :

An IDer based upon the MORSE program. Has 4 time delays as well as
a random time delay. Circuitry includes selection of a voice id
using the Radio Shack 10 voice board or the Walden bookstore 10 sec
talking gift card. This is a very simple circuit and program but was
developed by my students under my direction.

May be of interest to someone out there.

=========================================================================
Title : Lift (elevator) Controller [# 016]
=========================================================================
Date : 951225
Author: Dave Bell
E-mail: dbell@cup.portal.com
-------------------------------------------------------------------------
Stamp model : Faux Stamp (BASIC Stamp clone)
Code available: Yes
Filename : Upon request
URL : N/A
-------------------------------------------------------------------------
Description :

A simple control loop monitoring lift Call buttons (with debounce)
and Limit switches, forbidding manual control past limits, and en-
forcing a Stop before reversal of direction. This will be used in
an owner -designed and -built single story platform lift for a home.

=========================================================================
Title : Paging with the Stamp [# 017]
=========================================================================
Date : 960104
Author: Kurt Clement
E-mail: kclement@kraft.com
-------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Yes
Filename : monitor.bas
URL : N/A
-------------------------------------------------------------------------
```

Description :

Use the Stamp to monitor several inputs, two temperature and two
contact closures in this application. When inputs go outside set
limits, dial pager and send coded message. Used to monitor power
failures and temperatures for computer and network equipment since
August 1994, running on 9 V power supply from one of the UPS units.

==========
Title : Switching Sytem [# 018]
==========
Date : 960109
Author: Alexander Avendano
E-mail: aavendan@aros.net

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

I'm almost finishing a Basic Stamp Based Switching System (Small
Phone system) which I consider very usefull for small companies that
cant'n afford other brands. This is designed with a host computer
which will have a vox-mail and all the functions like big ones to
choose. I'm using BS1-IC's for the extensions process right now.

As soon I have complete it I will give the code away for small
Intelligent Switching phone system up to 2 Lines and 4 Extensions
using the L.C.D serial circuitry for information display. I forgot
to mention that the computer (Host for many processing functions)
will be running under Windows 3.1 and Windows 95, making this way a
usefull computer not only for the phone system but for ithers
application at the office.

Please be free to send me E-mail, about any suggestion.

==========
Title : Door Entry Card Reader [# 019]
==========
Date : 960110
Author: Ed Buckley/J J Barbarello
E-mail: ed@milinst.demon.co.uk

Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : N/A

Description :

Stamp 1 based version of the Card Reader article by J J Barbello as described in the August 1995 edition of Electronics Now. This version uses the Stamp 1 as a local controller determining the card number and deciding whether or not to allow door opening. Optional serial comms back to a master controller and optional local message readout using an LCD Backpack.

Lots of scope for further enhancement/experimentation. Circuit schematic and listing available.

==========

1.5 Credits and other things

Credits should go to all of you who makes this list possible I hope it suffices to say "Thank you to all who have contributed to L.O.S.A - we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support this great products !

If there is anything you think I've missed (or spelled wrong <g>) I would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@algonet.se

Stay tuned,

/Christer

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-=-=-=

485. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: John Wammack <wammack@aps.anl.gov>
Message-ID: <30FF1A2B.2F85@aps.anl.gov>
Source record: 108003
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

ECG has a ECG973 or ECG973D for the MC1496, NTE has NTE973. For the
MC1596,I've found nothing.
Hello wrote:
>
> Hello,
>
> Is there a remplacement for this chips ?
>
> Happy New Year.
> opworld@worldnet.fr
> Happy
> New opworld@worldnet.fr
> Year

486. Re: state-of-the-art in FSK demodulators for HF TTY?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.822002867@bauv111>
Source record: 108004

wayne@interval.com (wayne burdick) writes:

>What are Kantronics and others using for FSK demodulation? XR2211,
>LMC568, AMD2910? I'd like to find a non-DSP (that is, low-current) device
>that can really dig out the weak ones on HF TTY (Baudot and ASCII,
>mostly). Also, I'm looking for a TTY pen-pal/guru who can help with some
>technical issues in exchange for some no-charge alpha-test hardware.

Have a look on the following compressed PostScript documents:

ftp://bauv106.bauv.unibw-muenchen.de/pub/claude/discri.zip
ftp://bauv106.bauv.unibw-muenchen.de/pub/claude/dtc.zip

You will find information about a discriminator and a DTC, both especially
suited for a high performance RTTY TU.

Sorry, but low-power is another story.
--
Claude
claude@bauv106.bauv.unibw-muenchen.de

487. Rogers Duroid - Where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <DLDwCD.EDC@freenet.carleton.ca>
Source record: 108005

Who manufactures Rogers Duroid cct bd (Rogers?) and do they sell
small quantities directly to the public? Does anyone have a telephone number?

Also, a telephone number for Taconics Plastics would be appreciated. I
think they are located in NY.

thanks de Russ, va3rr

488. DC-DC converter for charging. Was: Adding another vehicle battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <4dmg4f$b0t@cocoa.brown.edu>
Source record: 108006

> > Date: Mon, 15 Jan 1996 16:11:33 GMT
> > From: butte.wbst129@xerox.com
> > Subject: How to add battery capacity to a vehicle?
>
> > I am interested in increasing the battery capacity in my pick up
> > truck to permit it to run equipment for a longer period of time
> > without the engine running. Specifically, I would like to be abl
> > to leave my remote controllable dual band rig on as a cross band
> > repeater without coming back to a dead battery. I've considered
> > the following options, but would like comment, feedback and
> > suggestions.

> 4.
> > Power the rig from a separate lead-acid or gel-cell with trickle
> > charger powered by an ignition-switched circuit. (I already hav
> > gel cells with about 20 amp-hours of capacity) Don't know how t
> > construct this circuit to limit current if battery were
> > discharged. (Yeah, I'm ignorant, but learning...) Thoughts anyo
>
> Complicated charger circuit would be required to prevent damage to
>the gel cells, plus you would not have the capacity for long periods of
>operation unless you ganged ten or more together!

I have a few 12V (10 to 14V) to 13.6V (+- 10% adjustable within
a small range) 1.7A continuous (2.7A peak) DC-DC converters that
I plan to use for battery charging (submersible video power packs etc).

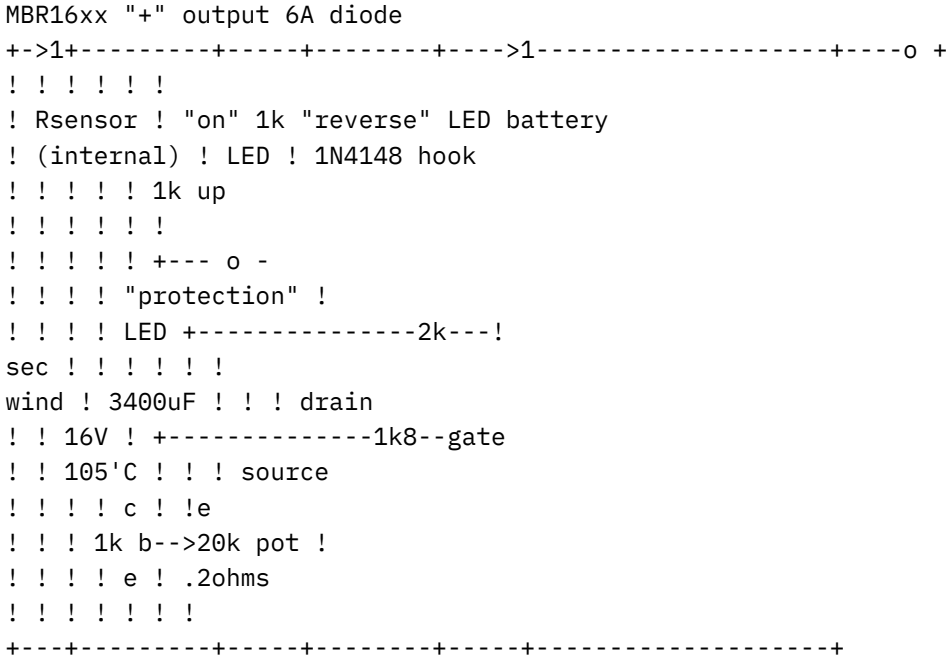
Works well but in my application polarity protection is called for.
(This might not be needed in a permanent installation).

So I put a diode or rectifier bridge on the input but have
been pondering how to protect the output made up of a
secondary transformer winding and one MBR16xx diode.
This posed various problems. I'm open to suggestions.

My current idea is to use an N-ch MOSFET in the
ground leg to the battery being charged. I put a .2 ohms
resistor in the source leg ("source degeneration") and I
connect the battery to the drain terminal. I feed the gate
from the "+" output of the DC converter and protect the MOSFET
(and thus xformer and MBR diode) against overcurrent (> 3A)
by sensing the voltage over the combined MOSFET (0.12 ohms and
Rdrain 0.2). This signal is voltage divided in a resistive
ladder and fed to the base of an npn bjt which shorts the
gate to ground if the base goes above 0.65 V or so.

Various resistors limit the branch currents and LEDs
indicate charger "on", "reverse polarity" and "overcurrent
protection". This last attempt managed to keep the voltage
over the MOSFET to a small value even in protect mode which
means I hope to get away with the IRF511 at radio shack.

Commenst very welcome if others have pondered similar
problems.



john

489. Need Novatel 8305A cellphone info badly

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: ka1kjz@tigger.jvnc.net
Message-ID: <DLEF08.FC8@tigger.jvnc.net>
Source record: 108007
Cross-posted to:
rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

Well, here I go again, I've been looking for this information for some time now and hopefully SOMEONE has SOMETHING.

I have a few Novatel model 8305A cellular phones that I wish to convert over to 900MHz. They are black, square, about 10" x 10" x 2".

At the very least I need a schematic, but full service information would be nice too. I understand that there was a Novatel Amateur Radio Club at one time and they did just this, converted them over to 900MHz for packet.

Any info would be appreciated and I of course will pay costs of copying and shipping if necessary.

Please reply via e-mail... ka1kjz@ix.netcom.com

73zzz Ron

490. Re: Wire Gauge vs Current: 120VAC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30FDF5D0.2329@jpaw.com>
Source record: 108008

PFZouave wrote:
> Strictly speaking, the wire should be 12 guage or the breaker
should be 15 A. However, the world won't come to an end if you
just forget it. The #14 would run a bit warmer than #12 with a
20 A load, but it probably won't set the house on fire.

Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: http://www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

491. Re: WANTED: KANSAS CITY TRACKER, INFORMATION WANTED !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4dlsc9$9ka@newshost.lanl.gov>
Source record: 108009

Try:
L.L. Grace
P.O. Box 1345
Voorhees, NJ 08043
USA

This is the company I ordered my Kansas City Tracker from.

--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

492. Looking for info on legal cases involving commercial antenna-tower construction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: dragottj@milwaukee.tec.wi.us
Message-ID: <4dk20l$e0a@news.milwaukee.tec.wi.us>
Source record: 108010
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.shortwave

I am looking for information about cases involving legal disputes between local government, city to be exact, and private industry. I am having trouble getting a local township to agree to let me raise my business tower to 500 feet. They have been stalling me for over a year now. Any information would greatly be appreciated.

Please either post information under this article or preferably e-mail me at 'dragottj@milwaukee.tec.wi.us'. Thanks.

493. SB220 mod for 6m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: taketani@goshun.spring8.or.jp
Message-ID: <DLD0JA.Hv0@postman.riken.go.jp>
Source record: 108011

I am looking for the SB220 amp modification to use 6m.
Also modification parts are needed.

Thanks, Atsushi Taketani N9KAU/JF3NRI

E-mail taketani@spring8.or.jp

494. Re: ***ONE OF THE BEST HAM WEB PAGES ON THE INTERNET. TRY IT OUT!!***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: kilgore@wichita.tivoli.com
Message-ID: <4dluna$qbs@tivoli.tivoli.com>
Source record: 108012
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

In article <4dlre7$mkr@superb.csc.ti.com>, mbv@ti.com (Ken Durham) writes:
|> In article <4dk7io$kd1@fnord.dfw.net>, dmclean@dfw.net says...
|> >
|> >Hello all:
|> >
|> > In the last message that I sent over usenet I forgot to include my
|> >url for my web site. The URL is "http://www.dfw.net/~dmclean".
|> ~~~~~~`
|> I tried this URL yesterday and again this morning with no results. Netscsape
|> keeps contacting the host forever. Please try your page from another site and
|> see if it can be accessed.
|>
|> Ken Durham K5MBV mbv@ti.com
|>

It worked fine for me the other day, and I just checked it again and it's
working.

73,
Jeff Kilgore, KC1MK

495. WANTED: KANSAS CITY TRACKER, INFORMATION WANTED !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: Geert Pirens <Geert.Pirens@ping.be>
Message-ID: <30FE0D97.2363@ping.be>
Source record: 108013

Hello,

Can anybody give my an address where I can order the KANSAS CITY TRACKER ??

ANY INFORMATION IS WELKOM !!

THANKS FOR YA REPLY.

Geert Pirens, ONL2057

496. Re: Wire Gauge vs Current: 120VAC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: source@netcom.com
Message-ID: <sourceDLDD8H.3rI@netcom.com>
Source record: 108014

In article <4djhu6$cij@newsbf02.news.aol.com>,
PFZouave <pfzouave@aol.com> wrote:
>
> For starters, 20amps seems to be an awfully large breaker for three lousy
>outlets. Secondly, While #12 wire in the string could probably carry an
>overload until the breaker tripped, Im concerned about the #14 link. So,
>the question is this: Should I replace the 20 amp breaker in the panel
>with a 15 amp unit?

1. Yes, it should have been 15 amps in the first place.

2. Make sure your work conforms to your local electrical code.

3. Read Chris Lewis's excellent electrical wiring FAQ from sci.electronics
ftp://rtfm.mit.edu/pub/usenet-by-hierarchy/sci/electronics

4. The number of outlets and breaker size have little to do with each other.
You can overlaod a circuit from one outlet.

5. Wire size has everything to do with breaker size. This is so that the
breaker will trip before the wire overheats. For average situations:
Gauge Amps
14 15
12 20

497. Re: Wire Gauge vs Current: 120VAC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4dm62u$moi@maureen.teleport.com>
Source record: 108015

> source@netcom.com (David Harmon) writes:
> In article <4djhu6$cij@newsbf02.news.aol.com>,
> PFZouave <pfzouave@aol.com> wrote:

> . . .

> 2. Make sure your work conforms to your local electrical code.

> . . .

In this state, wiring can be legally done only by the homeowner or a licensed electrician, and a state permit is required. I think that this is the rule in most other states. If you ever have a fire and the insurance company discovers the wiring wasn't legally done, they might not pay.

Roy Lewallen, W7EL

498. Re: dummy load?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <30FDF472.663D@jpaw.com>
Source record: 108016

steps@bashful.einsteininfo.com wrote:
>
> Could someone either send me,or direct me to a site where I might find plans
> to construct an inexpensive dummy load (50 ohm).I don't need it to handle
> more than 10 to 15 watts maximum.Thanx!
> steps@bashful.einsteininfo.com

Cheap depends on your ability to find resistors. I once made a dummy load by paralleling thirty 1500 ohm 2 W carbon composition resistors. I connected 10 in parallel side-by-side with a 12 guage (or so) wire along the grounded side. I then took three sets of 10 and connected them altogether, in a "Y" configuration, along a common #12 wire which went to the center of a coax connector. The three wires at the other end of the resistors were connected to the body of the connector. It worke OK at 50 MHz, although it had some noticeable reactive component at the frequency. These resistor now run $2.69 each with minimum purchase 25 from Newark. So if you go this route it will only be economical if you can find a cheap source of resistors. Of course you can use differing numbers of resistors, different resistance, differenct wattage. The point is if you need a load at 50 MHz or below you can get away with a lot. Probably a smaller one might even be adequate on 144 MHz.

Or, find a Heath Cantenna somewhere. They were the size of a 1 gallon paint can and would meet your requirements without the oil, depending on what frequency your are planning to use.

de K9GXC, Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: http://www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

499. Re: New Meter Faces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <822036910.4791@pinetree.microserve.com>
Source record: 108017

"Nancy A. Sims" <nasfred@interserf.net> wrote:

>Need software to make new meter faces. Have Power Point, etc., but
>can't seem to get the gradient lines perpendicular to the curved scale
>line. Don't want to do a free-hand, but would like a machine generated
>scale.

I also had to do that awhile back. The software was cumbersome for this purpose, but it did get the job done. The program I used was Micrografx Designer, an illustration program similar to Corel.

First, I drew an outline of the meter face and marked the exact location of the pivot point of the needle. Next, I drew an arc across the face and positioned it where I wanted the scale to be. The center of the arc was about four or five inches below the pivot point of the meter, and I positioned it so that at the midpoint, the needle would extend past it by about 1/4".

From there, I drew a vertical line from the needle's pivot point to a point 5/16" past the arc. Next, I duplicated the line several times, so that I had one line for each gradient marker that was needed. All the lines were lying directly on top of each other in the drawing.

After that, I used the "rotate" function to rotate each line a specific number of degrees, pivoting them at the bottom. Alternately, you could use the rotate and drag function to move each line exactly where you want it, in case the scale isn't linear. Finally, I drew a white oval with no border, moved it on top of the lines, and used it to mask the lower portions of the lines so each would appear to be only a short marker across the scale.

There are probably a few different ways to get this done, but that's the method I used. If anyone knows of a quicker technique, I'd be interested too. Apparently, meter manufacturers use dedicated software for this.

Incidentally, you can draw the lines so they are either perpindicular to the curved scale or parallel to the pointer, but not both. This is because the curved scale isn't centered on the same point as the needle and is also drawn on a larger radius. If you examine a meter while the pointer sweeps the scale, you'll see that the pointer extends much further past the scale at the center than it does at each end. Anyway, in all the meters I've seen, the markers are parallel to the needle. This keeps the pointer positioned correctly on top of each marker as it moves across the face.

73,
Jack WB3U

500. Re: dummy load?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DLE08B.4r9@ncifcrf.gov>
Source record: 108018

In article <30FDF472.663D@jpaw.com> Jim Potter <jpotter@jpaw.com> writes:
>steps@bashful.einsteininfo.com wrote:
>>
>> Could someone either send me,or direct me to a site where I might find plans
>> to construct an inexpensive dummy load (50 ohm).I don't need it to handle
>> more than 10 to 15 watts maximum.Thanx!
>> steps@bashful.einsteininfo.com

As Jim says below, you probably can't doing cheaper than buying one
already made.

>
>Cheap depends on your ability to find resistors. I once made a
>dummy load by paralleling thirty 1500 ohm 2 W carbon composition
>resistors. I connected 10 in parallel side-by-side with a 12
>guage (or so) wire along the grounded side. I then took three
>sets of 10 and connected them altogether, in a "Y"
>configuration, along a common #12 wire which went to the center
>of a coax connector. The three wires at the other end of the
>resistors were connected to the body of the connector. It worke
>OK at 50 MHz, although it had some noticeable reactive component
>at the frequency. These resistor now run $2.69 each with minimum
>purchase 25 from Newark. So if you go this route it will only
>be economical if you can find a cheap source of resistors. Of
>course you can use differing numbers of resistors, different
>resistance, differenct wattage. The point is if you need a load
>at 50 MHz or below you can get away with a lot. Probably a
>smaller one might even be adequate on 144 MHz.

You don't say what freq you're interested in. I did a similar
thing to Jim for 10W using 1W resistors, howwever with a little
more effort I got the thing to have little reflectance at 2m (SWR <1.1
couldn't read it). I used a design out of one of the RSGB books (great
books guys). I used a BNC connector and the thing was a cylinder
with the resistors being the walls of the cylinder and two copper
discs about 1.5" diam, being the end plates. I drilled holes for the resistors
around the circumference of each plate and put a BNC connector
at one end. The next bit is a bit tricky - you have to join the
center pin of the BNC connector to the plate at the other end of
the dummy load. The conductor you use has to have a diameter such
that the characteristic impedance of the piece of "coax" formed by the
outer wall of resistors and the center conductor is 50ohms - I used
a piece of brass tubing about 3/4" in OD (from what I can remember)
and cut a hole in the copper disk at the far end of the dummy load
to fit. There's one more wrinkle - you;re going from coax the size

of a BNC connector to coax with a much bigger diameter. The step
there will appear to be a discontinuity unless you get it right.
I didn't know how to do it right and I guessed that gap from the
center pin of the BNC connector to the smaller copper plate I made
to join onto the brass tubing, should be about the same size
as the gap between the tubing and the resistors. As I said at
2m the thing was perfect.

Joe NA3T
mack@ncifcrf.gov

>
>Or, find a Heath Cantenna somewhere. They were the size of a 1
>gallon paint can and would meet your requirements without the
>oil, depending on what frequency your are planning to use.
>
>de K9GXC, Jim
>
>
>--
>James M. Potter, President E-mail: jpotter@jpaw.com
>JP Accelerator Works, Inc. URL: http://www.jpaw.com/jpaw/
>2245 47th Street Voice: 505-662-5804
>Los Alamos, NM 87544-1604 FAX: 505-662-5210

501. Re: NiCAD Charger Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: "Paul D. Seyler" <Paul_Seyler_at_AOS500@admin.tc.faa.gov>
Message-ID: <30FEAD23.4F39@admin.tc.faa.gov>
Source record: 108019

eighmy@scott.net wrote:

> I used a ICS1700 charger chip. I think it is very similar to the Maxim chip. It uses a "Reflex charge" (90% +
> charge current, 5% -charge current, 5% measurementcycle) that minimizes gas build-up during charging.
>
> Motorola, Benchmarque and Sanyo also have a similar chips.
>
> 73,
> Gene
> wd4mps
> Birmingham, AL

the MAX713 does not do a "reflex charge". Did you make up your own design
for a charger or did you base it on the data sheet example? How well
does the chip work? What types of cells are you charging and how fast?
If you have a nice design, could you post a schematic? ICS has a web site
that contains the data sheets in postscript format if anyone else was
interested >>> http://www.icsinc.com/products/pwrindx.htm

502. GPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-18 00:00:00 UTC
From: wwcv@aol.com
Message-ID: <4dma1f$k3c@newsbf02.news.aol.com>
Source record: 108020

Does anybody have a GPS hand held for sale?

503. for sale... d104. etc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: mitchell@scoot.netis.com
Message-ID: <DLEoG6.vI@arrow.netis.com>
Source record: 107924

I am upgrading my old 386dx40 system to a Pentium system. In the
process
I have many usefull parts to try to peddle. The items are listed below
and priced to go fast. They will be sold first come first serve.
Get back to me fast or make offer if only kinda interested.

1 meg 32 pin simms $20 each Have 4

IO card providing 2 com ports $3

80mb scsi hard drive as is $7 1 meg segment on hd is bad, but I
just partitioned it off and use the other 79 no problem.

Samsung data monitor, color cga with vga adaptor plug $15

XT computer only no monitor or keyboard all else there.$18 or make
offer!!!!!!

SCSI controller cable. 3 feet or so long. $3 ($5 to $15 new)

brand new dual floppy drive. 5 1/4 and 3 1/2. Fits in 5 1/4 size bay
Just one floppy sells for$45new. This went $120 new asking $55

2 working printers. Both have manuals and work fine.
Toshiba Expresswriter 420
Star SG 15

I will sell them for $40 each or both for $70

Also have

D104 microphone $30
40ch Pierce Simpson cb mobile set $15
several 23 channel cb mobile sets $7

504. Re: RS12/13

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4dn4v3$uqc@news-f.iadfw.net>
Source record: 107925

brian.carling@acenet.com (Brian Carling) wrote:

>Does anyone have any idea what has happened to the RS12 satellite?
>I've listened for it the past few days & haven't heard anything
>on 29.407 MHz.
>I did hear the beacon momentarily and a few seconds from a weak signal
>in California but that was all I have heard lately!

>---
> SLMR 2.1a

I just heard it last nite, think the beacon is 29.408 though. Pretty
low pass, but perfect copy. Check your time setting on your tracking
prgm (just an idea)...
73,
Kerry
WD5ABC

505. Re: ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: g_reed@icon.net
Message-ID: <N.011896.181400.63@icon.net>
Source record: 107926
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

> Hello to all:
>
> Come a take a look at my new web page. I have been working on it for
> the last 4 weeks. I have lots of thing that you will like. Some of the
> things that I have are: MODs, Swap Shop, Dfw repeter list, comment page,
> links to other good ham pages, call looks ups (updated by the sec), radio
> pricing, Links to QRZ,FCC,HRO, and many more. If you are a ham and would
> like you web page added to my list just send me e-mail. Please tell me
> what you like and dislike about the page. I want all types of comments.
> Hope you like what I have.
>
> --
> David Mclean
> From The World of Hamradio
> KC5NNV is Clear!
> ____
> ---
>
>

David,
Sounds like you have a good thing started. How 'bout the address?

<><><><><><><><><><><><><><><><><><><><><><><><><><><><><>
<> Glenn Reed <>
<> OK Wing Communications - C.A.P. <>
<> Sooner 44 <>
<> KF5XB <>
<><><><><><><><><><><><><><><><><><><><><><><><><><><><><>
Note: The above remarks do not necessarily
represent those of anything sentient.

506. Re: Needed: uA757 IC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-180196215209@160.205.101.24>
Source record: 107927

In article <821989353.6913@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) wrote:
>
> After troubleshooting my rig for a tricky receiver problem, I've
> determined that the IF amplifier IC has failed. The chip is a
> Fairchild uA757 DP.
>
> Unfortunately, there doesn't seem to be a substitute for this in the
> general replacement semiconductor lines. If anyone has one or two of
> these that they don't need, I'll buy them. Alternately, can anyone
> recommend a Fairchild distributor for this part, or perhaps a cross
> reference to another device?
>
> 73,
> Jack WB3U

Jack, Fairchild is gone...I believe what was left of them got acquired by National Semiconductor a couple of years ago, and I don't think you'll have any luck w/ National Semiconductor either.

Taking a brief look in the Cross-Reference section of a colleague's 1982 Fairchild Linear data book, I don't see any competitor's device crosslisted to a uA757, which would suggest to me that the 757 was a unique amp (and would support your inability to find a SK/ECG/etc. equivalent).

About the only thing I can offer you is a copy of the relevant pages on the uA757 from my co-worker's Fairchild Linear book, in the event you can't get any OEM replacements. E-mail me if you need the copy.

Good luck -

TGB

\\ The opinions expressed herein are my own. //

507. Winding torroids - wire gage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4dmuoa$gi@ixnews6.ix.netcom.com>
Source record: 107928

Im looking at building several QRP projects, they all call for different size wire on the torroids, usually #26,#28,#30 is there a formula for figureing out different gage wire substitutes?

I dont mind buying a spool or two of the different sizes but if the spec calls for 30 turns of #28 on a T60-6 can you put more or less turns of #26 and get the same results. Why the different sizes?

Somebody clue me in....

Thanks,

Tim, ka8ddz

508. Re: Mitsubishi as RF device supplier?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: robboma@aol.com
Message-ID: <4dnb5a$5tv@newsbf02.news.aol.com>
Source record: 107929

I have used the Mitsu UHF power hybrids and found them to be
excellent......just keep the fin VERY well grounded and the power supplies
de-coupled.

Sorry but I don't recall the source.

Bob, WB3DBL

509. Re: Winding torroids - wire gage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: Douglas Braun <douglasbraun@hol.gr>
Message-ID: <4do89l$ph9@newsflash.hol.gr>
Source record: 107930

Well, just calculate the inner circumference of the toriod, and the diameter of the wire. Of course, consider that the effective inner radius is about one wire radius less than the actual circumference...

If you buy some Amidon cores, they include a lot of data, including a chart of core size vs. wire guage capacities.

Doug Braun
SV/N1OWU

510. Re: Motorola Syntor 2 Mtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: bob.berlyn@chowda.com
Message-ID: <9601191008472255@chowda.com>
Source record: 107931

Good morning all,

I have found a couple of Motorola Syntor business band radios. These were originally made for about 150 Mhz. These rigs should be able to be converted to 2 Meters. I remembers seeing something about it somewhere on the net, but can't remember where.

If you have any information on doing the conversion PLEASE E- Mail me

Thanks
Bob

 CMPQwk 1.4 #2032 Bob Berlyn N1PWU Bob.Berlyn@Chowda.Com

511. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: bayomi@MBnet.MB.CA
Message-ID: <bayomi.822065511@access>
Source record: 107932

re: grapefruit powered Transmitter, Did Gilligans Island know about it?

I will have to try that experiment with the grapefruit.

There should be a book containing all the things you could do if you were
stuck in a forrest/desert/island.

I don't recall if there was an episode on Gilligans Island where the
professor made a transmitter out of a fruit?

73;s

a non practicising ham VE4 DON
Don Bayomi
Winnipeg, Manitoba, Canada
...its not always this cold but today its 38 below celcius !!!
even my brass monkey flower pot outside is begging to be let in the house:)

512. Re: Winding torroids - wire gage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4doofm$h48@hpcvsnz.cv.hp.com>
Source record: 107933

Tim Hynde ka8ddz/qrp Rochester, MI (timhynde@ix.netcom.com) wrote:

: Im looking at building several QRP projects, they all call for
: different size wire on the torroids, usually #26,#28,#30 is there a
: formula for figureing out different gage wire substitutes?

: I dont mind buying a spool or two of the different sizes but if the
: spec calls for 30 turns of #28 on a T60-6 can you put more or less
: turns of #26 and get the same results. Why the different sizes?

The wire size won't affect the inductance significantly. Inductance depends on the particular core, and in general, for a given core, the inductance increases as the square of the number of turns: double the number of turns and the inductance multiplies by 4. That's true for air-core coils, too, if you wind the wire in the same space..same diameter and length, but more turns (of smaller wire). But for toroid cores, you wouldn't want to try to put more turns through the center than will fit. For RF work, general practice seems to be to keep it to a single layer, so you'd want to go smaller in wire size if the original had things packed tight around the core already. If you get an information packet from Amidon, it will probably have a table of number of turns of various wire sizes versus core size.

In general, you want to use the largest wire you can for a given core and winding geometry (i.e. single layer), to keep resistance low and Q high. But in air-core coils at RF, it's usually important to space the turns apart from eachother to keep distributed capacitance under control.

513. 814 vacume tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: bwhittem@mailgw.sanders.lockheed.com
Message-ID: <bwhittem.25.30FFD73F@mailgw.sanders.lockheed.com>
Source record: 107934

does anyone know the use and value of these tubes?
a friend ahs a few that appear unused.
73
barry
wb1edi

514. Re: Winding torroids - wire gage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <822070376snz@lfheller.demon.co.uk>
Source record: 107935

In article <4dmuoa$gi@ixnews6.ix.netcom.com>
timhynde@ix.netcom.com(Tim
"Tim Hynde ka8ddz/qrp Rochester, MI " writes:

> Im looking at building several QRP projects, they all call for
> different size wire on the torroids, usually #26,#28,#30 is there a
> formula for figureing out different gage wire substitutes?
>
> I dont mind buying a spool or two of the different sizes but if the
> spec calls for 30 turns of #28 on a T60-6 can you put more or less
> turns of #26 and get the same results. Why the different sizes?
>
> Somebody clue me in....

It's probably the case that the wire sizes are different so as to ensure that the wire diameter used is at an optimum value, to get as high a Q as possible, for a given number of turns. The inductance basically depends on the number of turns, rather than the wire size, so just use the same number of turns with the different wire, and you should be OK. The different Q probably won't make any difference that you'd notice, on HF, anyway.

Wire size does matter, of course, if you are need lots of turns, to avoid overlapping turns, which increase the self-capacitance and affect the Q quite a lot (I think).

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

515. Re: X-tal 1.36MHz - looking for

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: david.lagzdin@canrem.com
Message-ID: <60.9507.3290.0N2079F3@canrem.com>
Source record: 107936

try LES SMITH crystals oakville 905 884 4505
-> Leon Heller (Leon@lfheller.demon.co.uk) writes:
-> > In article <DLAH3t.A60@alchemy.chem.utoronto.ca>
-> > fbures@alchemy.chem.utoronto.ca "Frank Bures" writes: >
-> >> Desperately looking for 1.36MHz Crystal I need to repair a
-> >> mass spectrometer. If someone has one at home, please help.
-> >> Will pay. Close enough frequency acceptable.
-> >> I could also do with a 21.76MHz one.
-> >
-> > Getting crystals made isn't at all expensive. I can get custom
-> crystals > in about a week here in the UK for less than #10.
-> >
-> > Leon
-> > --
-> > Leon Heller, G1HSM | "Do not adjust your mind, there
-> is > E-mail leon@lfheller.demon.co.uk | a fault in reality": on a
-> wall > Phone: +44 (0)1734 266679 | many years ago in Oxford.
->
->
-> Hi Leon and All,
->
-> I am repairing my Heathkit Printer. It broke in 1993 and being
-> unemployed, currently is taking me longer than expected to finish the
-> repair. I need a 6.7584 MHz crystal in a HC-33 case for the main
-> logic board of the printer, but can't find anyone that makes just
-> one. Does anyone know of anyone that makes this crystal or has it in
-> stock?
-> The Heathkit part no. for the crystal is 404-623 and is identified in
-> the circuit as Y201. I do not have any other specifications for the

516. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: cgreenha@magnus.acs.ohio-state.edu
Message-ID: <4dorah$5aa@charm.magnus.acs.ohio-state.edu>
Source record: 107937

In article <bayomi.822065511@access>, Don Bayomi <bayomi@MBnet.MB.CA> wrote:

>re: grapefruit powered Transmitter, Did Gilligans Island know about it?
>
>I will have to try that experiment with the grapefruit.

Perhaps I missed the first part of this thread, but when I was in grade school, one of our science projects was making a battery out of an orange. We took pennys (copper) and nickles (zinc I think) and pushed them into the orange 3/4s the way down, alternating between them (penny, nickle, penny, nickle, penny, ect.), being very carfull not to let them touch...but getting them as close as you can.

After going half way around (dont go any farther...it will slowly decrease the voltage), we were able to light a small lamp. I cant remember what voltage we got...but it did work...a basic 'acid' battery. Remember to end one side with a penny, and the other with a nickle (polarity).

I also remember seeing a potatoe powered clock somewhere in a catalog...but cant remember where, but do remember it worked on the same principal.

Take care all, & 73.

--
Christopher K. Greenhalgh, N8WCT
Computer/Electronic Tech. II at The Ohio State University
E-Mail: ckg+@osu.edu (cgreenha@magnus.acs.ohio-state.edu)
Radio : n8wct@w8cqk.#cmh.oh.usa.noam

517. Re: GPS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4donm8$n1s@newsbf02.news.aol.com>
Source record: 107938

What are you looking to spend? I think you can pick em up new for 250-300 bucks.

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

518. Re: ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: Markus Buehler <mbuehler@access.ch>
Message-ID: <4domov$inl@pacifica.access.ch>
Source record: 107939
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

Hello
Thanks for your work.
I have some troubles to find your page...
Adress ??
So long
Greetings from HB9CPW, Switzerland

519. Re: Winding torroids - wire gage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: Douglas Braun <douglasbraun@hol.gr>
Message-ID: <4do8a2$pp5@newsflash.hol.gr>
Source record: 107940

Well, just calculate the inner circumference of the toriod, and the diameter of the wire. Of course, consider that the effective inner radius is about one wire radius less than the actual circumference...

If you buy some Amidon cores, they include a lot of data, including a chart of core size vs. wire guage capacities.

Doug Braun
SV/N1OWU

520. Re: Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4doufc$okg@mksrv1.dseg.ti.com>
Source record: 107941

snip
>There is a guy in AZ somewhere that advertises a book called CB to 10
>mtrs, I see the ad alot. I wrote for a catalog of his offerings about a
>year ago and he seemed to have alot of conversion information. Check
>the ham mags for his ad.
snip

The company goes by "CBCI". That is an acronym for

"CB City International"

They've been around for years, catering to the
bootleg CB market. They sort of "morphed" into
the ham market via CB-to-Ten conversions, since
the technology is the same. The owner of this
establishment is Lou Franklin, K6NA, who is one
of the most prominent CB writers.

73 de KC5NG

PS... I saw his catalog a number of years ago.
His prices were, IMHO, astronomical!!!

521. Help needed repairing eddystone SW rig.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: ai657@freenet.toronto.on.ca
Message-ID: <DLFLFK.B11.0.queen@torfree.net>
Source record: 107942

I need some help repairing an Eddystone EC-10 SW rig.
I have the manual and have tested the transistors using the
figures in the "Voltage Analysis" section.
All seemed close to the values quoted except TR4 & TR5 (IF Amp).
TR4 should be 0.87v (E) 1.15(B) 5.6(C) but is 0.36(E) .64(B) 1.71(C)
TR5 should be 0.40v (E) 0.70(B) 7.5(C) but is 0.05(E) .28(B) 0.28(C)

I am not well versed in electronics repair and am hoping that someone can
put in the right direction. Should these transistors be replaced? If so,
would they be commonly available here in Canada. (OC171) If not, then
what would be a suitable substitution? I've noticed that these
transistors have 4 leads. The fourth is labeled "S" and always goes to
ground. Is this akin to grounding the case of the transistor?
Looking forward to hearing from anyone who may be able to help.
Please email. Thanks in advance.
Paul.

522. Balun Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199601191835.MAA19521@tri.net>
Source record: 107943

Here I set with a big pile of radio books and can't find the right design example:

I need a balun to go from 50 ohms balanced to 50 ohms unbalanced at 1000 watts at 160 meters. I have ten Fair-Rite Products 2643102002 (Amidon FB-43-1020) beads on hand. 1.02 in OD, .505 in ID, 1.125 in long with permeability 850 at 160 M. (type 43 material)

Don't really want to do the W2DU type. Anyone tell me how many beads and how many turns of what wire or shall I read a bit more and fake it.

Thanks,

Lawrence E. Stoskopf, M.D.
N0UU

523. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: griffithj@ricks.edu
Message-ID: <DLG9JM.1nu@ricks.edu>
Source record: 107944

Instead of putting BFO (Beat Frequency OSC.) in the radio and "BEAT" it against the 455khz IF, you can set a 455khz OSC. next to the radio, and you'll hope that it is a very stable RF generator,oscillator ect., and "BEAT" the oscillator against the signal being received in the 455khz IF. Same thing as a BFO. The IF strip in a radio is just a receiver at an IF frequency, and if not to will shielded, it will also receiver your external RF oscillator.

I have done this many times. But you'll find the dial on the external RF oscillator very touchy if not designed to be use in this way. Like breath on it, and it will change.

WA7NDD, Jim.

In article <4d7dvb$m8b@detroit.freenet.org>, am024@detroit.freenet.org says...
>
>
>I seem to remeber a few posts a while back about being able to
>tune in SSB stations with an AM radio (SW) by just running a
>477 khz oscillator near it.... Is this true? Do crystals run
>down that low? If so I could just build a VXO in that area and
>be able to adjust it... Has anyone made this work?

524. th48e

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: R.acerbi@pn.itnet.it
Message-ID: <4dnl47$rig@alpha.it.net>
Source record: 107945

Hi all,
Is there anybody able to hope me with some mods. aviable for my th48e
by Kenwood.
Best 73s de IK1SBB mailed by I1NXX (acer001@pn.itnet.it)

525. Re: ***ONE OF THE BEST HAM WEB PAGES ON THE INTERNET. TRY IT OUT!!***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: mandtsys@ix.netcom.com
Message-ID: <4do32b$e8m@ixnews6.ix.netcom.com>
Source record: 107946
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

In <4dlre7$mkr@superb.csc.ti.com> mbv@ti.com (Ken Durham) writes:
>
>In article <4dk7io$kd1@fnord.dfw.net>, dmclean@dfw.net says...
>>
>>Hello all:
>>
>> In the last message that I sent over usenet I forgot to include
my
>>url for my web site. The URL is "http://www.dfw.net/~dmclean".
>~~~~~~
~~~~~`
>I tried this URL yesterday and again this morning with no results.
Netscsape
>keeps contacting the host forever. Please try your page from another
site and
>see if it can be accessed.
>
>Ken Durham K5MBV mbv@ti.com
>

I accessed the site from the Netcom Irvine POP with no problems. Found
some interesting bits and pieces.

Robotic Regards,

Tom Thornton KE6NJC
~~~~~

526. Custom Meter Faces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: swithrow@nyx.cs.du.edu
Message-ID: <4dq1bg$eu8@nyx.cs.du.edu>
Source record: 107947

I've seen several people interested in doing their own meter faces
and just wanted to say that it is not that hard. I had an article
published in April 1995 Electronic Now describing the technique that
I use. Works great. One reader even took my basic program and made
it menu driven so that all you do is give the meter physical dimensions,
the way you want the meter laid out, and how you want it labeled, then
presto, it comes out on any HPGL printer.

For $5 (to cover envelope, disk, and postage) I'll mail you a copy.

73,
Skip Withrow - WB0BBE
5404 South Walden St.
Aurora, CO 80015
(303) 693-0997
ah441@freenet.uchsc.edu

527. FREE DEMO:DXtreme Station Log System V2.0

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: dxtreme@ix.netcom.com
Message-ID: <4dp5ej$mm4@ixnews5.ix.netcom.com>
Source record: 107948

Announcing the DXtreme Amateur Radio Station Log System(tm) Version 2.0

Designed for HF DXers, this affordable logging program lets you enter
your contacts and track the DXCC performance of your station.
DXtreme(tm) features attractive, easy-to-use screens, and a full range of
inquiries and reports.

PC/AT-compatibles, 80386DX+, MS-DOS 5.0+.

Write for a copy of the data sheet and more information, including how
to obtain the free Demo version of DXtreme. Contact me at
dxtreme@ix.netcom.com.

Thanks and 73,

Bob Raymond, NE1I

528. Re: Mitsubishi as RF device supplier?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DLFoDp.HC2@hpqmoea.sqf.hp.com>
Source record: 107949

Robert Everitt Heiss (rheiss@tuba.aix.calpoly.edu) wrote:
: The UHF hybrids sound interesting, and I am also looking for HF
: transistor (MRF485, etc.) alternatives to Motorola. So, want to
: share any opinions on Mitsubishi? What data books or app notes
: should I ask for? A distributor which accepts small credit card
: orders would be nice to know about, too. Thanks.

Mitsubishi VHF and UHF hybrid power modules are used in quite a few
of the Big-3 VHF/UHF rigs. Reliability is not very good, but I'd say
this was more a matter of application rather than the hybrids themselves:

How to kill a power amp hybrid:

1) put lots of thermal compound under the thing and really tighten
the mounting screws at the ends. The aim is to use the pressure
under the centre of the hybrid to bend its copper plate and split
the alumina substrate inside. This is a nice fault as the
fractured part often works fine when cool, but stops working when
hot. Think of it as a way to limit over lengths.....

2) Don't have any form of thermal shutdown sensing the temperature
of the thing, be a bit stingy with heatsink size. Temp rise on
a hot day will crack the substrate. Ragchewers or folk who stack
books on their radios will suffer.

3) Why not try a fan-cooled heatsink with no over temp shutdown?
the fan will eventually wear out and allow the module to stew
itself to death. Try a thermostatic fan so the operator won't
notice when it dies......

Seriously, the modules could have been better designed to avoid the
first problem, but if you're sensible, they're OK.

Put on some form of over temp shut down and you'll have excellent
reliability. Mitsubishi have been involved in RF power devices for a
long time and can be considered to be as trustworthy as anyone.

Have fun
David GM4ZNX

ps with a reasonable stereomicroscope and soldering iron, I've
repaired failed modules quite successfully.

529. Re: Radio REPAIR resource?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: bsw@cs.brown.edu
Message-ID: <4dmr7m$iqe@cocoa.brown.edu>
Source record: 107950

Jim Devenport <jdevenport@lanl.gov> wrote:

>Is there such a thing as a radio *repair* newsgroup ?
>I am particularly interested in a schematic/service info for
>a Uniden CR-2026 SW receiver at the moment.

Jim, try sci.electronics.repair

73,
Brian WA1VUT

530. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan19.142956.5916@ke4zv.atl.ga.us>
Source record: 107951

In article <4djhh1$c9u@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>In article <1996Jan17.031054.24105@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
>(Gary Coffman) writes:
>
>>It doesn't, nor does it need to, a megavolt transient is quite sufficient
>>in itself.
>
>How does a megavolt ultra short rise time transient make it past the line
>bypass caps, terminal blocks outlet, fuse box and so on?

It often doesn't. The impedances across which it is expressed will determine whether it will flash over there or not. The transient, for the case of lightning, is a current pulse of up to 18,000 amperes, but of very short duration (so energy is low). It doesn't take much of an impedance for that pulse to translate to a very high voltage (a megavolt is not uncommon), which can then flash across ordinary insulation or air gaps. The purpose of transient suppressors is to give the pulse a defined and controlled place to discharge rather than depending on chance to allow it to flash somewhere unpredicted.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

531. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4doefc$jfu@newsbf02.news.aol.com>
Source record: 107952

In article <1996Jan19.142956.5916@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>It doesn't take much of an impedance for that
>pulse to translate to a very high voltage (a megavolt is not uncommon),
>which can then flash across ordinary insulation or air gaps. The purpose
>of transient suppressors is to give the pulse a defined and controlled
>place to discharge rather than depending on chance to allow it to flash
>somewhere unpredicted.

That's a lot of current, it almost sounds like a direct hit on the outlet!

Are you saying the MOV you were describing would protect equipment from damage with that type of hit? Perhaps they are worthwhile!

Can you run a model of the MOV you described in a typical line input circuit to see what happens?

73 Tom

532. FS: Tubes - unused and boxed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: dmbrown@iinet.net.au
Message-ID: <4dnrbm$t2t@opera.iinet.net.au>
Source record: 107953
Cross-posted to: rec.audio.tubes,rec.antiques.radio+phono,rec.radio.amateur.homebrew,rec.radio.swap

I have the following tubes for sale. Would prefer to sell as a single lot.
Sensible offers by email please.

Type Qty Manufacturer

5Y3GT 6 Philips/Miniwatt
5Y3GT 37 AWV Radiotron
6AQ5 1 AWV Radiotron
6AQ5 11 GE
6AQ5 6 Japan-no brand
6AQ5 7 Military-no brand
6AV6 16 AWV Radiotron
6AV6 25 RCA
6AX5GT 5 RCA
6CB6A/6CF6 1 GE
6CH6/EL821 2 Philips/Miniwatt
6J6 12 AWV Radiotron
6J6 1 CEI
6J6 375 GE
6J6 55 Chelmer UK
6J6 4 Haltron
6J6 10 National
6J6 4 Philips/Miniwatt
6J6 1 RCA
6J6 2 Sylvania
6J6 100 Zaerix
108C1 5 National
955/VT121 20 RCA
955/VT121 2 Tung-Sol
5933S 30 Thomson/CSF
EL85 10 Mullard
EL85 19 Teonex
OB2 8 Trigon
OB2 2 RCA

David

533. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: "Colin Schmutter"
Message-ID: <4dmu9p$6vp@chopin.bcit.bc.ca>
Source record: 108021
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <821626298snz@lfheller.demon.co.uk> Leon@lfheller.demon.co.uk writes:
>Elantec are advertising the EL4083C current-mode 4-quadrant multiplier
>which goes up to 200 MHz. It's in an 8-pin DIL package and looks quite
>easy to use. It should nake a good substitute for the Motorola devices.
>Samples are available from Elantec on (800) 333-6314 ext 311.
>
>I think that the NE602 has been replaced by the NE612.
>
>Leon
>--
>Leon Heller, G1HSM | "Do not adjust your mind, there is
>E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
>Phone: +44 (0)1734 266679 | many years ago in Oxford.

The TL 442 would make a good alternative to the MC1496.

Made by Texas Instruments, this chip requires a much lower component count.

It has balanced 50 ohm and 600 ohm inputs and is ideal for product
detector circuits.

Colin

cschmutter@bcit.bc.ca

534. mod. Iron needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: Your Name Here! <username@ici.net>
Message-ID: <4dmsfa$33n@crusher.ici.net>
Source record: 108022

I am looking for a replacement modulation transformer for a Johnson 500 tx.
Or a multi match 250 -300 watt mod transformer that I can sub. in for the original.
Thanks. Bruce, KD1MW. shiso@ici.net

535. Re: ***Ham WEB page For all people to use! WITH ADDRESS! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-19 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4dn3bb$amu@news.accessone.com>
Source record: 108023
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

In article <4df6ek$40k@fnord.dfw.net>, dmclean@dfw.net says...
>
>
>Hello to all:
>
> Come a take a look at my new web page. I have been working on it for
<snip>
>Hope you like what I have. the address is http://www.dfw.net/~dmclean
>
>--
> David Mclean
> From The World of Hamradio
> KC5NNV is Clear!
>_____

And after you visit his, come visit Ham Radio Online - feature stories, newsletters, real-time propagation and auroral condition information, newsletters, product reviews, and so much more! Updates almost daily.

http://www.accessone.com/~vbook/hronline.htm

Have fun and enjoy,
Ed, KF7VY
---
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free, at
http://www.accessone.com/~vbook/hronline.htm

536. Re: Rogers Duroid - Where to get?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <4dplb4$14g@news.asu.edu>
Source record: 107954

In a previous article, ae517@FreeNet.Carleton.CA (Russ Renaud) says:

>Who manufactures Rogers Duroid cct bd (Rogers?) and do they sell
>small quantities directly to the public? Does anyone have a telephone number?
>
>Also, a telephone number for Taconics Plastics would be appreciated. I
>think they are located in NY.
>
>thanks de Russ, va3rr
>

R/T duroid laminate is made by:

Rogers Corp.
100 S. Roosevelt St.
Chandler, AZ 85224
602-961-1382

There are several grades of duroid laminates. The original grades were
5870 and 5880, they are PTFE filled with non-woven glass fiber. They
have dielectric constants of 2.3 to 2.5. There is a similar product called
6002 that is PTFE filled with Silica powder, it has a better dimensional
stability and less change of dielectric constant with temperature.

Thre are also 6006 and 6010 grades with dielectric constants of about 6
and 9.2. They are PTFE filled with other ceramic powders.

The circuit board fabricators that work with PTFE laminates have some
specialized fabrication methods, but if you don't need plated through holes
you could probably use them with few problems.

--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

537. Need PCB trace size to current info .

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: secure1@usit.net
Message-ID: <4dqvjl$148@news.usit.net>
Source record: 107955

I need info on what trace size can handle in amps. Email at
secure1@usit.net Thanks !

538. ANY INFO ON AM912A/TRC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: Gary Davidson <reporter@sparc1.castles.com>
Message-ID: <4dplgm$k9h@miwok.nbn.com>
Source record: 107956

I have a VHF RF anplifier deck military surplus, model designation AM-912A/TRC. It covers the frequency range 100-224 M.C., using a single 4X150A in the final. It is an RF deck only, no power, metering, etc. It uses a cavity tuned grid and plate circuit, is all VERY heavily silver plated, and seems to be exceptionaly well engineered. It is about the size of a TS440 HF transceiver.

My question is: If I substitute a 4CX250B in the final, and build an appropriate power supply, what sort of efficiency could I reasonably expect from this cavity tuned circuitry compared with what we amateurs normally use at VHF frequencies? Is cavity tuning more, or less efficient than some of the copper pipe or strip type circuits.

Perhaps someone out there recognizes this device and can offer some helpful info?
Thanks, and 73, Gary, KJ6Q.

539. Re: ne 602/612

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4dpeg0$b75@ixnews8.ix.netcom.com>
Source record: 107957

In <3lau5n7$2i8_001@pcm.co.za> workshop@pcm.co.za (Workshop) writes:
>
>Can anyone tell me if there is a site on the net where I can
>get application notes on the ne 602 or 612 chips.They are not in any
of
>the data books that I have got.
>
>You can e-mail me at workshop@pcm.co.za , or post to this group.
>
>thanks
>
>Robin

The URL for Philips is Http://www.semiconductors.philips.com/ps/

You can download .pdf (Adobe Acrobat Reader) files of datasheets,
application notes and etc.

John B. Lawrence

540. Does anyone have a design for a simple-ish radio transmitter/transciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: mahon.murphy_dtti.team400.ie@internet-eireann.ie
Message-ID: <4dqg39$do2@server1.internet-eireann.ie>
Source record: 107958

I have been surfing around for a while on the Net looking for a design for a radio transmitter Range Does Not Matter. I'm just looking for a starting point to radio - cheaply. I would be very grateful to anyone who could mail one in ascii/ attached bitmap or otherwise directly to the above address, using my name Cian Murphy, as the Subject.

Thanks

541. baycom user wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: jessica <jhoo219@crown.net>
Message-ID: <4drf2c$hu7@kiwi.crown.net>
Source record: 107959

```
hi name toby here call is n9fdf looking for any baycom
user here...and and info on updated software...
```

542. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4dr1ek$2hp@ixnews8.ix.netcom.com>
Source record: 107960

In <4dgqha$g86@maureen.teleport.com> w7el@teleport.com (Roy Lewallen) writes:

>
>Motorola also has a line of zeners characterized for transient protection.
>They call theirs TVS (Transient Voltage Suppressors).
>
>Roy Lewallen, W7EL
>

..and at the back of Motorola's book (Motorola TVS/Zener Device Data) are some app notes regarding transients and their suppression. I happened to stumble across them several days ago while looking up a zener's spec's.

- Jeff, WA6AHL

543. Re: Winding torroids - wire gage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4dqn4f$qge@maureen.teleport.com>
Source record: 107961

> timhynde@ix.netcom.com(Tim Hynde ka8ddz/qrp Rochester, MI) writes:

> Im looking at building several QRP projects, they all call for
> different size wire on the torroids, usually #26,#28,#30 is there a
> formula for figureing out different gage wire substitutes?

> I dont mind buying a spool or two of the different sizes but if the
> spec calls for 30 turns of #28 on a T60-6 can you put more or less
> turns of #26 and get the same results. Why the different sizes?

> Somebody clue me in....
> Thanks,

> Tim, ka8ddz

Tim,

I did some measurements years ago which show that inductance and Q
change very little over a few wire gauges on common toroid cores.
There's likely to be a greater variation in toroids due to tolerance
of the permeability and mechanical dimensions than you'll see by
changing the wire size a few gauges. The wire size is usually
dictated by what the author has on hand. Avoid using wire so large
that it won't conform to the core, but otherwise use what you have,
don't change the number of turns, and you'll be o.k.

73,
Roy Lewallen, W7EL

544. Re: Winding torroids - wire gage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan20.164504.12026@ke4zv.atl.ga.us>
Source record: 107962

In article <4dmuoa$gi@ixnews6.ix.netcom.com> timhynde@ix.netcom.com(Tim Hynde ka8ddz/qrp Rochester, MI) writes:
>
>Im looking at building several QRP projects, they all call for
>different size wire on the torroids, usually #26,#28,#30 is there a
>formula for figureing out different gage wire substitutes?
>
>I dont mind buying a spool or two of the different sizes but if the
>spec calls for 30 turns of #28 on a T60-6 can you put more or less
>turns of #26 and get the same results. Why the different sizes?

For a *space* wound coil on a core, the size of the wire is determined primarily by the amount of current it must handle. Thus for higher currents, larger gage wire is chosen. (Note for RF it is skin effect resistance that counts here.)

For a *close* wound coil on a core, it is the number of turns that will *fit* on the core that determines gage. Obviously, more turns of wire can be put on a given size core if the wire is of smaller diameter. (Multilayer and scramble wound cores are grossly different than the single layer type we're discussing of course.)

If neither of these limits is a concern, then it is only the number of turns (and the core material of course) that determines inductance, not the wire gage. (There are, usually minor, factors beyond the number of turns that determine final inductance. The spacing of turns affects the turn to turn capacitance, so spreading or compressing turns on the core has the effect of varying effective inductance. Different gages may allow *room* for more or less of this spreading and compressing.)

Air core coils have different constraints having to do with length to diameter ratios, flux leakage, and the like, which complicate the picture. You can largely ignore these issues with toroids as long as you use the specified core.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

545. Re: Help needed repairing eddystone SW rig.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <822129363snz@lfheller.demon.co.uk>
Source record: 107963

In article <DLFLFK.B11.0.queen@torfree.net>
ai657@freenet.toronto.on.ca "Paul Egan" writes:

> I need some help repairing an Eddystone EC-10 SW rig.
> I have the manual and have tested the transistors using the
> figures in the "Voltage Analysis" section.
> All seemed close to the values quoted except TR4 & TR5 (IF Amp).
> TR4 should be 0.87v (E) 1.15(B) 5.6(C) but is 0.36(E) .64(B) 1.71(C)
> TR5 should be 0.40v (E) 0.70(B) 7.5(C) but is 0.05(E) .28(B) 0.28(C)
>
> I am not well versed in electronics repair and am hoping that someone can
> put in the right direction. Should these transistors be replaced? If so,
> would they be commonly available here in Canada. (OC171) If not, then
> what would be a suitable substitution? I've noticed that these
> transistors have 4 leads. The fourth is labeled "S" and always goes to
> ground. Is this akin to grounding the case of the transistor?
> Looking forward to hearing from anyone who may be able to help.
> Please email. Thanks in advance.
> Paul.

The OC171 was made by Mullard (part of Philips) something like 30 years ago. I used the similar OC170 in a simple reflex Rx in the 60s. You'll probably have trouble finding them in Canada. If you need to replace them, I can think of one or two places here in the UK that *might* have them, like Cricklewood Electronics. The 170 was an RF amp, and the 171 an IF amp, as I recall. Both were germanium, of course. The 4th lead was a screen and was connected to the case.

73, Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

546. Motorola Conversion Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: bob.berlyn@chowda.com
Message-ID: <9601201000172314@chowda.com>
Source record: 107964

Hello All,

I am looking for information on converting Motorola Syntor business band radios to 2 meters.

I thought I saw something about it some where but can't remember just where or when.

If any of you have this info or know where I can find it please E-Mail me.

Thanks

Bob.Berlyn@Chowda.com

547. Toroid permeability ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8221490533301@lss.humnet.humberc.on.ca>
Source record: 107965

Does anyone know how to measure the permeability/loss of a toroid core (without too much difficulty !) ?
They are difficult to get locally (I usually have to order them from Amidon in Cal.) but some surplus stores in Toronto have a wide assortment of bins of unmarked toroids. It would be a nice cost-effective altenative to having to order new ones if we knew what we had sitting at our doorstep.

A friend on a local BBS originally posed this question to me...
I couldn't really answer him ...I am also curious !
I thought that winding some wire onto them and taking impedance measurements at various frequencies may work but how does one accomplish this ?

Thanks..

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

548. New Book about TESLA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: U60082@uicvm.uic.edu
Message-ID: <96020.132601U60082@uicvm.uic.edu>
Source record: 107966
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.homebrew

We have translated the book: Tesla's Correspondence with Relatives in
ENGLESH. It contains more than 200 pages and we recommend that it gets
wide distribution in the scholastic community and elsewhere. It contains
a Preface by Dr. A.S. Marincic, Introduction by Dr. Nenad V. Mandich,
Tesla's relative and translated by Nicholas Kosanovich.

-=*=-

TESLA MEMORIAL SOCIETY, Inc. http://www.neuronet.pitt.edu/~bogdan/tesla
453 Martin Road
Lackawanna, NY 14218 http://www.eskimo.com/~billb/tesla/telsa.html Voice: (716) 822-0281
-*-

THE PURPOSE of this society is to honor and perpetuate the memory and
ideals of the great scientist and inovator, Nikola Tesla through
appropriate academic conferences, scholarship awards, and various
cultural activities. It is a nonpolitical and nonprofit organization.

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-=*=-
==========

549. QST UHF Noise generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199601202149.PAA26226@tri.net>
Source record: 107967

>
>I!m trying to build a noise source, based on the QST article of about 2
>years ago.

Great idea. I built one last year and had it calibrated. Flat (+/_ .4 dB)
to 2.5 GHz and then down 1.8 dB at 3.0 GHZ. I used a commercial barrel attn
(8 dB) on the output that was spec'd to 2 GHz so suspect that was the reason
for the quick rolloff.
>
>I!m too cheap to buy a NoiseCom diode, and I!d like to try a 1N21
>microwave diode instead.

Come on. For all you have probably invested, what's a little bit more. And
besides, what other RF company can you call a probably have the company
owner answer the phone....he did for me twice.

>I also understand that the Base-Emitter of microwave bipolar transistors
can generate significant Excess >noise

Yes

>Does anyone have any experience with generating noise with these devices?

Yes

>How might they compare to the NoiseCom diode with respect to ENR and
>frequency?

Go with the diode

>The final use for the noise source is to amplify the noise with 6 or so
>MMIC amplifiers and use the noise with my spectrum analyzer to measure
>filter response, etc, up to 2 GHZ. The noise hopefully should be flat
>across the spectrum.

How flat do you think that many MMICs will be?

Lawrence E. Stoskopf, M.D.
N0UU

550. Re: Winding torroids - wire gage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: qa2696@email.mot.com
Message-ID: <4dpit3$q0p@newdelph.cig.mot.com>
Source record: 107968

In article <4doofm$h48@hpcvsnz.cv.hp.com>,
tomb@lsid.hp.com (Tom Bruhns) wrote:
>Tim Hynde ka8ddz/qrp Rochester, MI (timhynde@ix.netcom.com) wrote:
>
>: Im looking at building several QRP projects, they all call for
>: different size wire on the torroids, usually #26,#28,#30 is there a
>: formula for figureing out different gage wire substitutes?
>
>: I dont mind buying a spool or two of the different sizes but if the
>: spec calls for 30 turns of #28 on a T60-6 can you put more or less
>: turns of #26 and get the same results. Why the different sizes?
>
>The wire size won't affect the inductance significantly. Inductance
>depends on the particular core, and in general, for a given core, the
>inductance increases as the square of the number of turns: double the
>number of turns and the inductance multiplies by 4. That's true for air-
>core coils, too, if you wind the wire in the same space..same diameter and
>length, but more turns (of smaller wire). But for toroid cores, you
>wouldn't want to try to put more turns through the center than will fit.
>For RF work, general practice seems to be to keep it to a single layer, so
>you'd want to go smaller in wire size if the original had things packed
>tight around the core already. If you get an information packet from
>Amidon, it will probably have a table of number of turns of various wire
>sizes versus core size.
>
>In general, you want to use the largest wire you can for a given core and
>winding geometry (i.e. single layer), to keep resistance low and Q high.
>But in air-core coils at RF, it's usually important to space the turns apart
>from eachother to keep distributed capacitance under control.

Addtional note: Yes you can use a smaller gauge of wire but the turn/turn
capacitance will change and hence the inductance per same number of turns will
change somewhat. Also turns spacing, how close the winding ends are, and in
the case of multiple layer things really get complicated.

FYI:

I've used Amidon's design liteature for toroid/ferrite winding info and found
it to be fairly accurate.

\|/
^ ^
(O O)
___.ooO__U__Ooo.___
Hmmmm...Could Be!

==========
| KD9JQ 708-358-3827 Home |
| Charles H. Reichert 708-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 qa2696@email.mot.com |
==========

551. Re: Toroid permeability ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan20.170525.12147@ke4zv.atl.ga.us>
Source record: 107969

In article <8221045958701@lss.humnet.humberc.on.ca> hduff@humnet.humberc.on.ca (Hugh Duff) writes:
>Does anyone know how to measure the permeability/loss of a toroid core
>(without too much difficulty !) ?
>They are difficult to get locally (I usually have to order them from
>Amidon in Cal.) but some surplus stores in Toronto have a wide
>assortment of bins of unmarked toroids. It would be a nice
>cost-effective altenative to having to order new ones if we knew what we
>had sitting at our doorstep.
>
>A friend on a local BBS originally posed this question to me...
>I couldn't really answer him ...I am also curious !
>I thought that winding some wire onto them and taking impedance
>measurements at various frequencies may work but how does one accomplish
>this ?

What you want to do, Hugh, is find the proportionality constant between the number of turns and inductance. Wind the core with several different numbers of turns, and measure the inductance for each. You can use an inductance meter, or just resonate the coil with a known capacitor and use a dip meter. Now graph the inductance versus the number of turns and devise an equation to fit the curve. The inductance should be proportional to the square of the number of turns, with the proportionality constant being the unkown you are trying to find.

L = k * (N)^2 or k = L/(N)^2

To determine the suitability of the material for various frequencies, excite the coil at those frequencies and measure the Q of the coil. Actually, the size of the proportionality constant you found above should already give you a clue. A large proportionality constant indicates a core suitable for low frequencies while smaller proportionality constants will indicate the core is suitable for increasingly higher frequencies.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

552. Re: Help needed repairing eddystone SW rig.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-20 00:00:00 UTC
From: wmkresl@townsquare.net
Message-ID: <4dru7g$9en@spectator.cris.com>
Source record: 107970

ai657@freenet.toronto.on.ca (Paul Egan) wrote:

>I need some help repairing an Eddystone EC-10 SW rig.
>I have the manual and have tested the transistors using the
>figures in the "Voltage Analysis" section.
>All seemed close to the values quoted except TR4 & TR5 (IF Amp).
>TR4 should be 0.87v (E) 1.15(B) 5.6(C) but is 0.36(E) .64(B) 1.71(C)
>TR5 should be 0.40v (E) 0.70(B) 7.5(C) but is 0.05(E) .28(B) 0.28(C)

>I am not well versed in electronics repair and am hoping that someone can
>put in the right direction. Should these transistors be replaced? If so,
>would they be commonly available here in Canada. (OC171) If not, then
>what would be a suitable substitution? I've noticed that these
>transistors have 4 leads. The fourth is labeled "S" and always goes to
>ground. Is this akin to grounding the case of the transistor?
>Looking forward to hearing from anyone who may be able to help.
>Please email. Thanks in advance.
>Paul.

The 'S" is for SHIELD, normally tied to ground. Based on the voltages
you described between the BASE and EMITTER I would conclude these
are old GERMANIUM type transistors...hard to come by. Also, based on
your measured values, your collector values are quite low from what
they shoould be.. I doubt the transistors are the cause but another
stage (like AF AMPLIFIER transistor) shorting out that bogs everything
else down...or a resistor or RF CHOKE that feeds your IF AMP. Very
rarely do CLASS A amplifier stages operating at low DC levels just
die, I would look at the HI-POWER stages...AF AMP, POWER SUPPLY
and REGULATOR first......

--
Wm Kresl
WB9BBC @KD9JK.WI.USA.NOAM

--
Wm Kresl
GE Medical Systems
Milwaukee, WI

553. Morse code to text display wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: john@MERCURY.CS.UREGINA.CA
Message-ID: <4du55d$irl@sue.cc.uregina.ca>
Source record: 107874
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc

Hi. My dad is a Ham operator, and asked me if there were some inexpensive way to have incoming Morse code automatically translated and displayed on a CRT. Since I know nothing about Ham radio, I thought I'd post here. I'm sure what he wants to do must be possible; don't know about the inexpensive part though. If anyone can help us out I'd appreciate it. I'd prefer that responses be sent in private email, as I usually don't read these groups.

Thanks in advance.

--
John Rosloot, technical analyst
Dept. of Computer Science, University of Regina
Regina, Saskatchewan, Canada
http://www.cs.uregina.ca/~john/
john@cs.uregina.ca

554. Need Help Indentifying Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: thom@newshost.li.net
Message-ID: <4du6dd$q9j@linet02.li.net>
Source record: 107875

Hi and thanks in advance for your help,
I am in the process of building a keyer and it calls for a 2N2222 transistor....In my junk box I've come accross several 2N2222A's. First off, Am I right in making this assumption that these are OK to use?

The transistors I found are in a metal case wich and came in a package which says NPN TO-18...So I guess TO-18 is the case type.

Its a metal case with a small tab coming out of the bottom...I see similar cases called TO-18 in the 1996 ARRL Handbook so I'm OK on that score, I think.

Anyway my question is how do identify the leads? If I look down to the underside of the transistor and position the tab at 4 O'clock, the 3 leads are at 12, 6 and 9 O'clock.

If you can can tell me which leads are the emmitter, collector and base I'd appreciate it...more importantly, if you could tell me how to figure it out, myself, I woun't have to bother you the next time.

As I said I look in the Handbook, got close but couldn't find the answere.

Thanks for ypur help

Tom
WB2QDG

thom@li.net

555. Re: Help needed repairing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.7820.546@acenet.com>
Source record: 107876

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com.us
"mail sometimes bounces here, please resend if needed!"

Hello Leon. Perchance could you supply me the address and
phone number(s) for Cricklewood Electronics?
R.S.V.P.
I keep a list of US/Canada/UK suppliers of parts and kits for
amateur radio called MEGALIST.TXT and I could add them to the list.
If you can't find it locally, try these:
Updated copies downloadable from BBSes at: (301) 942-2218
(301) 417-6952, (301) 590-2981, (202) 619-1494, (202) 208-7679
FTP: lujce@hooch.cc.lehigh.edu
FTP: adams@chuck.dallas.sgi.com
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
URL: http://www.nd.edu/~shideg/

LE>> I am not well versed in electronics repair and am hoping that someone can
LE>> put in the right direction. Should these transistors be replaced? If so,
LE>> would they be commonly available here in Canada. (OC171) If not, then
LE>> what would be a suitable substitution? I've noticed that these
LE>> transistors have 4 leads. The fourth is labeled "S" and always goes to
LE>> ground. Is this akin to grounding the case of the transistor?
LE>> Looking forward to hearing from anyone who may be able to help.
LE>> Please email. Thanks in advance.
LE>> Paul.

LE>The OC171 was made by Mullard (part of Philips) something like 30 years
LE>ago. I used the similar OC170 in a simple reflex Rx in the 60s. You'll
LE>probably have trouble finding them in Canada. If you need to replace
LE>them, I can think of one or two places here in the UK that *might* have
LE>them, like Cricklewood Electronics. The 170 was an RF amp, and the 171 an
LE>IF amp, as I recall. Both were germanium, of course. The 4th lead was a
LE>screen and was connected to the case.

LE>73, Leon
LE>--
LE>Leon Heller, G1HSM | "Do not adjust your mind, there is
LE>E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
LE>Phone: +44 (0)1734 266679 | many years ago in Oxford.

I am G3XLQ/W3 (!)
brian.carling@acenet.com

 SLMR 2.1a

556. Re: Circut req'd - telephone line in use indicator.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: bgudgel@eskimo.com
Message-ID: <DLJoIJ.AHu@eskimo.com>
Source record: 107877

I understand that there is a device that can be connected in series with your modem or phone that inhibits off hook when another extension is in use.

Here in Seattle it is supposedly available at Home Depot (a home hardware store). I think it is a thyristor type device that turns on when the voltage across it is larger than some preset value (20 volts maybe). Of course, if the voltage is somewhat low, then the line is already in use and it won't trigger. This is only a guess as to how it works, but hearing that it was a two terminal "diode looking" device, that's probably correct. Also, supposedly one of these things had an LED in series also. I would think though that you'd want to put a capacitor in parallel with that for less attenuated audio.

Bob KI7IQ http://www.eskimo.com/~bgudgel

557. Information about building QRP tx/rx's...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: mgallego@br.homeshopping.com.br
Message-ID: <1157cc$103b38.121@news.cyberplus.ca>
Source record: 107878

Hi all,
I'm looking for an article that has some QRP circuits for SSB. I don't know if QST had published one. If anybody knows what issues, please let me know.
Thanks to you all.
73's.
Marcos (please, answer by email if possible)

558. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: randol@indirect.com
Message-ID: <4dsb1s$t64@globe.indirect.com>
Source record: 107879

In <n7ws.34.00262BB7@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) writes:
>In article <30FBE7D3.69B5@arrl.org> Zack Lau <zlau@arrl.org> writes:
>>From: Zack Lau <zlau@arrl.org>
>>Subject: Re: VCO power supply noise reduction
>>Date: Tue, 16 Jan 1996 10:00:51 -0800
>
>>Wes Stewart wrote:
>Even in aerospace, we historically have thrown money at things by screening
>hardware (as the VCO vendor had done with the regulator chip, BTW) to improve
>yield and reduce variability. Now days, we are being forced to use
>Commercial-Off-The Shelf (COTS) stuff. This is for two reasons: one, the
>customer (that's you, Taxpayer) doesn't want the finest anymore and 2, no
>vendors want to put up with the paperwork necessary to build a handfull of
>parts, when they can build millions for other people. This scares the hell out
>of me, but nobody asked me.
>Regards, Wes -- N7WS

Wes,

I test VCO's, amps, etc in quantity (more than most government/aerospace contractors probably make in a lifetime) and the parts to be VERY repeatable and tight in tolerance to make it through testing without rediculously large limits. I'd venture that a large portion of the paperword no one wants to do is Davis-Bacon boiler plate and the like. That, and stuff that overspecs the part to the degree that you CAN'T make a part without tweaking the life out of it. But for commercial/consumer apps, repeatability and predictability of the product are key. The customer isn't gonna stop to tweak each of >50k units they're gonna ship, but they won't take substandard performance either.

So I'd disagree that using commercial parts necessarily means 2nd best. On the contrary, a designer should be able to optimize a design with a highly repeatable product.

73,
Mark

Airbag. n. 1) An automotive accessory designed to explode on impact.

559. Radio circuit required

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: "ian.simcock%1": 2619/211.9;
Message-ID: <f98_9601230615@woodybbs.com>
Source record: 107880

To: ian simcock%1:2619/211.9%12:320/100.666
From: simcock@adam.com.au (ian simcock)
Subject: Radio circuit required

I'm hopeing that someone could point me to either
1) An Internet site with circuit diagrams
2) A book with appropriate circuits
3) A person who could design an appropriate circuit
4) A company that sells what I want.

What I need is a small radio that fits the following specs -
1) Any frequency (preferably an unlicenced peice of spectrum)
2) Digital transmition of 500 bytes per second
3) 200 meter range under bad indoor conditions
4) Digital tuning
5) Runs on 4-6 volts
6) Low power consumption
7) Rapid startup/shut down for the transmiter
8) 10 channels

If possible I'd like the following improvements
1) 1000+ bytes per second
2) 500+ meter range
3) Run on 3-6 Volts
4) 30+ channels
5) Able to easily transmit analogue (voice) signals

Thanks for reading this far.
I'll appriciate any help anyone can give me,
Ian Simcock.

Origin: WoodyWare Software, Inc. <-> Internet Gateway (1:2619/211.9)

Origin: Gateway ARNet <-> HamNet by HB9EBW (12:320/100.666)
--
|Fidonet: ian simcock%1:2619/211.9 2:301/249.666
|Internet: ian.simcock%1:2619/211.9
|
| Standard disclaimer: The views of this user are strictly his own.

560. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: MKubovic@trgnet.com
Message-ID: <4du9f0$6c5@insosf1.netins.net>
Source record: 107881
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <30FF1A2B.2F85@aps.anl.gov>, wammack@aps.anl.gov says...
>
>ECG has a ECG973 or ECG973D for the MC1496, NTE has NTE973. For the
>MC1596,I've found nothing.
>Hello wrote:
>>
>> Hello,
>>
>> Is there a remplacement for this chips ?
>>
>> Happy New Year.
>> opworld@worldnet.fr
>> Happy
>> New opworld@worldnet.fr
>> Year
Check National Semiconductor. Digi-Key (800)-344-4539 has the LM1496 listed in
various packages for sale.

561. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.42.00217815@azstarnet.com>
Source record: 107882

In article <4dsb1s$t64@globe.indirect.com> randol@indirect.com writes:
>From: randol@indirect.com
>Subject: Re: VCO power supply noise reduction
>Date: 21 Jan 1996 03:14:04 GMT

[snip]

>So I'd disagree that using commercial parts necessarily means 2nd best. On
>the contrary, a designer should be able to optimize a design with a highly
>repeatable product.

>73,
>Mark

My fears involve long term effects such as problems with moisture and plastic packaged ICs. This isn't exactly my area of expertise, however, in my department, we have materials people, chemists, and other components engineers that share my concern. I realize that some environments, particularly automotive, have conditions that may be worse than mil spec requirements. However, if you store your car for ten years in a bunker then ship it to Saudi Arabia and store it for a while at 140 degrees F and then ship it to Alaska and store it there for a while then take it out and try to start it with the first turn of the key, what happens? You probably will have six sigma (latest buzz word) repeatability; it fails 999,997 times out of 1,000,000.

On a not too related subject, but one brought on by a not to well thought out edict:

We have also been forced to eliminate the use of oxygen-depleting-chemicals (ODCs), such as the defluxing agents used to remove rosin flux. So, we use acid fluxes and water-based solvents. Of course, we are using surface mount components too. What are the long tern effects of less than perfect removal of the flux trapped under the components in moist environments. Your guess is as good as mine. But this is progress :-)

>Airbag. n. 1) An automotive accessory designed to explode on impact.

ALL of our products are designed to explode on impact.

562. Re: Ham-Homebrew Digest V96 #23

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199601212130.QAA23596@service1.cc.uky.edu>
Source record: 107883

At 08:22 PM 1/20/96 PST, you wrote:

>
>Date: Fri, 19 Jan 1996 17:39:11 GMT
>From: bwhittem@mailgw.sanders.lockheed.com
>Subject: 814 vacume tube
>
>does anyone know the use and value of these tubes?
>a friend ahs a few that appear unused.
>73
>barry
>wb1edi
>
>------------------------------
It is about 1/2 the size of an 813.

73
Bill ko4ww

William L. Fuqua III P.E.
Department of Physics and Astronomy
CP-177 Chem. Phys. Bldg.
University of Kentucky
Lexington, Ky 40506-0055
E-mail WLFUQU00@POP.UKY.EDU
Phone (606) 257-4155

563. Re: Radio circuit required

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: simcock@adam.com.au
Message-ID: <31027fb2.0@eden.adam.com.au>
Source record: 107884

Sorry about this, but as I kind of expected, I forgot something. Under the list of things that would be nice but not essential I'd like to add another item -
6) Separate transmitter/reciever i.e. Able to transmit and recieve at the same time on different frequencies.

Thanks again all,
Ian Simcock.

564. Lowfer help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: Mark Mansfield <markman@UTM.Edu>
Message-ID: <3102FE76.94B@UTM.Edu>
Source record: 107885

Does anyone know if there is a listserver for Lowfer stuff?
I'm interested in any info and pointers to ftp sites that contain Lowfer
related files.

Thanks,
Mark

565. Re: Mitsubishi as RF device supplier?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: eugene@loop.com
Message-ID: <4dsmg6$m7d@dobie.loop.com>
Source record: 107886

> robboma@aol.com (RobboMa) writes:
> I have used the Mitsu UHF power hybrids and found them to be
> excellent......just keep the fin VERY well grounded and the power supplies
> de-coupled.
>
> Sorry but I don't recall the source.
>
> Bob, WB3DBL
>
>>>>
Try R.F. Parts in San Marcos, CA
Joe WB6HRO

566. Alpha-Delta Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: jrybak@mesa5.Mesa.Colorado.EDU
Message-ID: <4dulf4$ftm@mesa5.mesa.colorado.edu>
Source record: 107887

Has anyone had any experiences (good or bad) with Alpha-Delta antennas?

Jim Rybak W0KSD

567. Re: ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: gravyman@bcl.net
Message-ID: <DLI4us.lzx@bcl.net>
Source record: 107888
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

David Mclean <dmclean@dfw.net> wrote:

>Hello to all:

> Come a take a look at my new web page. I have been working on it for
>the last 4 weeks. I have lots of thing that you will like. Some of the
>things that I have are: MODs, Swap Shop, Dfw repeter list, comment page,
>links to other good ham pages, call looks ups (updated by the sec), radio
>pricing, Links to QRZ,FCC,HRO, and many more. If you are a ham and would
>like you web page added to my list just send me e-mail. Please tell me
>what you like and dislike about the page. I want all types of comments.
>Hope you like what I have.

>--
> David Mclean
> From The World of Hamradio
> KC5NNV is Clear!
>_____
>-----

Dave,

I guess I might be overlooking something, but I don't see a URL listed
here. You might want to post that so people can check out your page.

73,
Mike (AA9NQ)

568. Re: Help needed repairing eddystone SW rig.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <822213961snz@lfheller.demon.co.uk>
Source record: 107889

Further to my previous post, as the OC171s are probably in the IF amp.,
and are both giving funny readings, the problem is most likely to be in
the AGC circuitry.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 266679 | many years ago in Oxford.

569. WANTED: 72 ohm twinlead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: Gary Stone <garystone@texoma.com>
Message-ID: <4dueps$he1@venus.texoma.com>
Source record: 107890

Greetings,

My brother-n-law (KI7XQ) is looking for about 3 feet of 72 ohm twinlead
for a balun on an antenna project. I know very little of the project,
but he does not have internet and I wanted to try and locate a source for
him.

Any ideas? Please e-mail response if possible.

Thanks and 73,

Gary

--

/__/\ Gary and Karen Stone (Gary N5PHT)
0 0 E-Mail: garystone@texoma.com
@ or karenstone@texoma.com
(_/_) Http://home.texoma.com/personal/garystone/
~~

570. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: clinton.peebles@saloon.bcbbs.net
Message-ID: <9601211428464864@saloon.bcbbs.net>
Source record: 107891

B>re: grapefruit powered Transmitter, Did Gilligans Island know about it?

Didn't the professor make a battery charger out of coconuts on one
episode? They had to stir their coconuts.

 QMPro 1.53 Salmon Siding Saloon - Salmo B.C. (604) 357-9942

571. TNC for Kenwood th22a and/or 520S HF rig?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: molsen@rio.com
Message-ID: <31029569.53352539@206.96.130.1>
Source record: 107892

Hi all,

Does anyone know of a TNC and modem kit for a handheld TH22AT and a Kenwood TS-520S. One that might work with both? Packet radio sure sounds interesting.

thanks for any info.

Monte Olsen
N7FFO

572. Re: Need PCB trace size to current info .

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4duf63$jna@hg.oro.net>
Source record: 107893

secure1@usit.net wrote:

>I need info on what trace size can handle in amps. Email at
>secure1@usit.net Thanks !

(a) If you can't take the time to read the newsgroups you post in, don't post. Asking for email answers in a newsgroup wastes all our times in reading.

(b) It is a function of the thickness of the copper on the board. For "one ounce" copper board, I've generally used 15 mils of copper width for each 100 mA of current and never had a problem. I'm sure when you get to current measured in amperes this rule of thumb breaks down, but for medium currents (less than an amp) it has always been OK for me.

Jim

Jim Weir VP Engineering | "We seem to be standing on
RST Engineering | the foreskin of technology."
Grass Valley CA 95945 | (Gen. Chuck Yeager)
voice/fax 916/272-1432 |
rst-engr@oro.net AR Adv WB6BHI CFI A&G/Comml Inst A&G/A&P/C-182A N73CQ

573. I NEED A PROGRAM AND INTERFACE DIAG. FOR HT600 MOTOROLA FOR A PC. PLEASE POST

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: dwhite@MAIL.ATCON.COM
Message-ID: <4e1c66$5r5@thor.atcon.com>
Source record: 107894

[No readable article body recovered]

574. NEED schematic RCA VICTOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: KevinDvorak <dvorak19@maild.starnetinc.com>
Message-ID: <4dshaa$2va@news.ais.net>
Source record: 107895

Model ?18
Instruction sheet 25015-2
Superheterodyne receiver

This was just given to my wife after the passing of her father. I would like to get it working for her if I can. Fillaments in the tubes seem to light but no audio. The corner of the lable is torn so I do not know if I am missing part of the model number. Any suggestions on where I might find schematic and/or tubes? Kevin Dvorak day-708-993-2135 night 847-566-9049. Thanks.

575. NEED schematic RCA VICTOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: KevinDvorak <dvorak19@maild.starnetinc.com>
Message-ID: <4dshb5$2va@news.ais.net>
Source record: 107896

Model ?18
Instruction sheet 25015-2
Superheterodyne receiver

This was just given to my wife after the passing of her father. I would like to get it working for her if I can. Fillaments in the tubes seem to light but no audio. The corner of the lable is torn so I do not know if I am missing part of the model number. Any suggestions on where I might find schematic and/or tubes? Kevin Dvorak day-708-993-2135 night 847-566-9049. Thanks.

576. Re: Does anyone have a design for a simple-ish radio transmitter/transciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4dtl4g$mhh@news-f.iadfw.net>
Source record: 107971

mahon.murphy_dtti.team400.ie@internet-eireann.ie (Cian Murphy) wrote:

>I have been surfing around for a while on the Net looking for a design
>for a radio transmitter Range Does Not Matter. I'm just looking for a
>starting point to radio - cheaply. I would be very grateful to anyone
>who could mail one in ascii/ attached bitmap or otherwise directly to
>the above address, using my name Cian Murphy, as the Subject.

> Thanks

Cian,
As soon as I can get together with a friend who has a scanner, I'll
scan in a few schematics and post them or e-mail them. We've been
having problems getting our free times at the same times! I have a
couple of qrp transmitters, a rx or two, and I think even a simple
transceiver. I'll post something here when I get the scans done.
There were several others who asked about them, so I'll drop a note
here when I get them scanned.
73,
Kerry
kmiller@airmail.net

577. Radio circuit required

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: simcock@adam.com.au
Message-ID: <3102775e.0@eden.adam.com.au>
Source record: 107972

I'm hopeing that someone could point me to either
1) An Internet site with circuit diagrams
2) A book with appropriate circuits
3) A person who could design an appropriate circuit
4) A company that sells what I want.

What I need is a small radio that fits the following specs -
1) Any frequency (preferably an unlicenced peice of spectrum)
2) Digital transmition of 500 bytes per second
3) 200 meter range under bad indoor conditions
4) Digital tuning
5) Runs on 4-6 volts
6) Low power consumption
7) Rapid startup/shut down for the transmiter
8) 10 channels

If possible I'd like the following improvements
1) 1000+ bytes per second
2) 500+ meter range
3) Run on 3-6 Volts
4) 30+ channels
5) Able to easily transmit analogue (voice) signals

Thanks for reading this far.
I'll appriciate any help anyone can give me,
Ian Simcock.

578. Re: Toroid permeability ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-21 00:00:00 UTC
From: cwhiffen@atl.mindspring.com
Message-ID: <4du2sc$dle@stealth.mindspring.com>
Source record: 107973

hduff@humnet.humberc.on.ca (Hugh Duff) wrote:

>Does anyone know how to measure the permeability/loss of a toroid core
>(without too much difficulty !) ?
>They are difficult to get locally (I usually have to order them from
>Amidon in Cal.) but some surplus stores in Toronto have a wide
>assortment of bins of unmarked toroids. It would be a nice
>cost-effective altenative to having to order new ones if we knew what we
>had sitting at our doorstep.

>A friend on a local BBS originally posed this question to me...
>I couldn't really answer him ...I am also curious !
>I thought that winding some wire onto them and taking impedance
>measurements at various frequencies may work but how does one accomplish
>this ?

>Thanks..

>Hugh Duff VA3TO Toronto

>---
> • NFX v1.3 [000]
OK, I'll give it a try. Measuring Permeability, Pb, isn't too
difficult but it requires measuring inductance. I use a little unit
from Jan '81 QST that, in turn, needs a frequency counter. So if you
have these then the easy way is probably to measure the dimensions of
the core and find it in the Amidon catalog. Then wind enough turns
to cover about 3/4 of the core; with ferrites probably about 10 turns
but more may be needed to get a good inductance measurement with
powered iron cores. Measure inductance L in microhenries. Then
calculate the ALratio by: Alratio=L(uH)x10000/N• where N is the
number of turns. (If you measure inductance in millihenries use:
ALratio=L(mH)x1000000/N•) You can then go back to the Amidon catalog
and find the type of core closest to your unknown. .

I f in Amidon you can't find a core of the size you are testing you
can calculate Pb by: Pb=L(uH)/(.0319xN•xfactor) where:
factor=Hx(OD-ID)/(•x(OD+ID)). H is core height, OD is outside
diameter and ID is inside diameter.

The numbers you will get will not be exactly the same as the Pb in
the catalog but the material types are sufficiently different that you
can make a pretty good guess. (at least for the ferrites.) To
identify powered cores exactly you need the loss data.

Loss data is more difficult to get. You need to be able to measure the Q of the test windings. I won't attempt to get into that here.

Good Luck OM, 73 Clay, KF4IX

579. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4e12dg$18f@cloner3.netcom.com>
Source record: 107897

In <4e0skc$dm9@linus.mitre.org> Jason Douglas <jdouglas@mitre.org>

>Mike: You're far more ambitious than I. I used to just take a little
>portable AM radio and vary the tuning until its LO was heterodyning
>with something in the target receiver. I admit that's pretty lazy,
>but it works. Regards,
>John Kelly K4XC

Well, I don't know about ambitious. I just had a lot more 6AU6s than
portable radios :) I was one of those kids who became an old-TV magnet
when I was growing up. So many tubes to pull, so many components to
unsolder, so many rivets to drill out...

73,
Mike, KK6GM

580. Re: WANTED: 72 ohm twinlead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4e0h1c$shi@newshost.lanl.gov>
Source record: 107898

3 feet? I could mail him some but the postage would exceed the
value of the twinlead. We have found 72 ohm twinlead to be
fairly difficult to locate and when we finally did we bought a
spool. For short HF uses many varieties of common 2-wire AC
"ZIP" cord closely approach 72-75 ohms impedance. Perhaps that
would work for his application.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

581. NEED APRS setup help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: rsellers@misha.net
Message-ID: <4dv48g$5g2@delta.misha.net>
Source record: 107899

I need assistance in getting an ICOM Z1A HT configured to my Kantronics KPC-3 and laptop computer. I'm anew HAM and don't understand some of the configuration requirements like UNPROTO. Some guys here are trying to help, but no one is yet shall we say an expert with it yet.
Thanks in advance, 73.

Roger
KB9LBU

582. varator diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: daly@eagle.rtc-waterford.IE
Message-ID: <9601221149.AA09737@eagle.rtc-waterford.ie>
Source record: 107900

Does anyone have a source of varator diodes.
I want to build tripler to 23cm, but cannot find definite source for
varator diodes. (BAY66???) any info would be appreciated!
Thanks in advance.

Warren EI6ETB

daly@eagle.rtc-waterford.ie

583. Re: ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: rong@computer.net
Message-ID: <4dunbd$rdc@news.computer.net>
Source record: 107901
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

David Mclean <dmclean@dfw.net> wrote:

>Hello to all:

> Come a take a look at my new web page. I have been working on it for
>the last 4 weeks. I have lots of thing that you will like. Some of the
>things that I have are: MODs, Swap Shop, Dfw repeter list, comment page,
>links to other good ham pages, call looks ups (updated by the sec), radio
>pricing, Links to QRZ,FCC,HRO, and many more. If you are a ham and would
>like you web page added to my list just send me e-mail. Please tell me
>what you like and dislike about the page. I want all types of comments.
>Hope you like what I have.

>--
> David Mclean
> From The World of Hamradio
> KC5NNV is Clear!
>_____
>---

Try our web page:

www.computer.net/nwara/wb2ixr.html

RON
****

RON GOLDSTEIN---KA2IIA
******
STAY YOUNG---DRIVE A VINTAGE 427 CORVETTE
KEEP YOUR MIND ACTIVE--BECOME AN AMATEUR RADIO OPERATOR

584. Re: Yaesu FIF-232c information and/or help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: drranu@holly.ACNS.ColoState.EDU
Message-ID: <4e0jcg$22kk@yuma.ACNS.ColoState.EDU>
Source record: 107902
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Chester Mccarter (jcmccarter@amoco.com) wrote:
: I have a Yeasu FT747GX and am trying to find a diagram of the FIF-232c
: CAT cable. I'm sure that there is someone out there that has built a
: similiar type cable. Please reply via e-mail also.

Try February QST, 1993 page 37. Less than $10 to make and works
damn well.

: --
: Chester Mccarter, CNE
: [Team OS/2]
: jcmccarter@amoco.com

--
-Emarit 73's drranu@holly.ColoState.EDU
Electrical Engineering, Colorado State Univeristy
KG0CQ _.-_ __. _____ -.-. __.-
Packet: KG0CQ@KF0UW.#NECO.USA.NOAM
All generalizations are bad. Censorship: #######

585. Re: Morse code to text display wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4e11t1$1om@cloner2.ix.netcom.com>
Source record: 107903
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc

John,

Of course inexpensive is comparative, but you should be able to find an XT or 286 PC with monochrome monitor for under $100.

There are 2 or 3 at least shareware programs that are a $10-20 registration that will do this fairly well. The first that comes to mind is the PRO-CW, at least I think that was the one, it included a schematic for the interface also. I played with it for a while, and it worked if someone had a clean fist or sent with a keyboard. I probably still have it somewhere if you can't find it anywhere else. I also think it is on the QRZ CD or home page also.

Good Luck
Glenn Sparks KI5GY gsparks@ix.netcom.com

In <4du55d$irl@sue.cc.uregina.ca> john@MERCURY.CS.UREGINA.CA (John Rosloot) writes:
>
>Hi. My dad is a Ham operator, and asked me if there were some inexpensive
>way to have incoming Morse code automatically translated and displayed on
>a CRT. Since I know nothing about Ham radio, I thought I'd post here. I'm
>sure what he wants to do must be possible; don't know about the inexpensive
>part though. If anyone can help us out I'd appreciate it. I'd prefer that
>responses be sent in private email, as I usually don't read these groups.
>
>Thanks in advance.
>
>--
>John Rosloot, technical analyst
>Dept. of Computer Science, University of Regina
>Regina, Saskatchewan, Canada
>http://www.cs.uregina.ca/~john/
>john@cs.uregina.ca

586. Games or features on TM-742A?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: daniel.lacasse@com18.com
Message-ID: <RERAAMHO.7AEC@com18.com>
Source record: 107904

Hi all,

PLEASE, if you know any hidden features or have heard about it, please
let me know!

TM-741A has 3, does the TM-742A has at least one???

73's de | Fido: 1:240/118 | Internet: Daniel.Lacasse@com18.com
I)aniel | Franco: 101:155/118 | Packet: VE2DLX@VE2SJC.#QBC.PQ.CAN.NA

587. Re: Toroid permeability ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4e10vi$ilg@newsbf02.news.aol.com>
Source record: 107905

And remember when you make the test, you should make it at several frequencies.

The permeability of the core is different at different frequencies. At some frequency the eddy currents will make the permeability slope down rapidly.

73 Tom

588. Yaesu FIF-232c information and/or help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: Chester Mccarter <jcmccarter@amoco.com>
Message-ID: <31036CEA.5D9B@amoco.com>
Source record: 107906
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I have a Yeasu FT747GX and am trying to find a diagram of the FIF-232c CAT cable. I'm sure that there is someone out there that has built a similiar type cable. Please reply via e-mail also.

--
Chester Mccarter, CNE
[Team OS/2]
jcmccarter@amoco.com

589. tunning in CW/SSB W/ AM SW radio.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: hts@thor.NET
Message-ID: <199601220201.UAA02036@odin.thor.net>
Source record: 107907

I have invented a kit that allow you to tune in CW/SSB with two SW AM radios. I have enjoyed SSB since a year ago. I have to return my Radio Shack DX-390 to the store because of its poor quality compare to my receiver. I have bought many AM SW radio from thrift store since than and all of them work great, in fact, I should say excellent.
I am willing to share my invention with everyone that does not afford to buy those expensive receiver and have no time to build complicated things. My kit just take you 2 minutes to hook up these two radios and ready to enjoy years of fun in CW/SSB. No modification and no screw driver or soldering required. All you need is $5.00 to cover the cost of shipping and cost of the parts for the simple kits and instruction. email me at hts@thor.net for more info.
I have 6 CW/SSB receivers now at my station. fun! and cheap but effective.
73
Richard.(hts@thor.net)

590. Re: Follow up vehicle battery question...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: wcovexip@moose.ptialaska.net
Message-ID: <4dum9f$jt7@news.dgsys.com>
Source record: 107908

Get ride of the gell cells if you leave your car out in freezing
weather. They are very seceptable to freezing and will be distroyed if
they do. Deep cycle marine batteries are a much better solution. I
had real problems with gell cells in cold weather here, so I speak with
realtime experience.

Bruce Gordon * Debora Gordon R.N. Bruce's Trading Post
P.O. Box EXI Excursion Inlet South
Juneau, Alaska 99850 Excursion Inlet, Alaska 99850

University of Alaska Remote Weather Data Collection Site
fnbeg@aurora.alaska.edu AL7AQ@KL7HFI * KL7WJ@KL7HFI
wcovexip@ptialaska.net Wards Cove Packing Co.

**** Have bandwidth and connection Will communicate ****

591. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DLL8A4.IA8@ncifcrf.gov>
Source record: 107909

In article <n7ws.31.0141CB21@azstarnet.com> n7ws@azstarnet.com (Wes Stewart) writes:
>In article <4d7dvb$m8b@detroit.freenet.org> am024@detroit.freenet.org (Robert Thomas Jackson) writes:
>>From: am024@detroit.freenet.org (Robert Thomas Jackson)
>>Subject: tuning in CW/SSB stations w/ AM only radio?
>>Date: 13 Jan 1996 04:55:07 GMT
>
>
>>I seem to remeber a few posts a while back about being able to
>>tune in SSB stations with an AM radio (SW) by just running a
>>477 khz oscillator near it.... Is this true? Do crystals run
>>down that low? If so I could just build a VXO in that area and
>>be able to adjust it... Has anyone made this work?
>
>The usual i-f is 455 KHz. Yes crystals can be had for this frequency. A vcxo
>would probably have very limited tuning range, however. This scheme will work
>after a fashion. The AM detector is used to mix the externally supplied
>carrier (BFO) with the SSB signal. The problems include; getting the BFO to
>i-f amplitude ratio correct, AGC system overload from the BFO, poor i-f
>selectivity, etc.
>
>Good luck.
>
>Wes -- N7WS

I did this when I was a kid, tuning in hams on a SW receiver
before I got my ham license. You don't need a crystal oscillator,
any oscillator will do and I just draped a wire from the oscillator
into the back of the box of the radio - no solid connection.

Joe NA3T
mack@ncifcrf.gov

592. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4e0jfu$cur@newsbf02.news.aol.com>
Source record: 107910

The discussion of grapefruit powered whatever reminded me of an ad I saw in a trade rag five, maybe six years ago for a company making single board microcontrollers. The add was full color, back back spread featuring their board connected to an exercise wheel with a gerbil running in it. It looked like the had replaced one of the exercise wheel's bearings will a little dc motor (generator).

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

593. Re: ***ONE OF THE BEST HAM WEB PAGES ON THE INTERNET. TRY IT OUT!!***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: Bob Fritz <bfritz@sd.inri.com>
Message-ID: <4e09l9$o88@gozer.inri.com>
Source record: 107911
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

Response is extremely slow - never did get to more than a blank page in about four minutes of waiting.

594. Re: Need Help Indentifying Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4e00lb$mv2@news.iii.net>
Source record: 107912

Hi Thom
The lead nearest the tab is the emitter, the lead farthest from
the tab is the collector, the lead in between is the base.
A 2N2222A is a better device, no one makes 2222's, only the A devices.
Any specifications book (Motorola, Harris, National) has a wealth of
information on transistors. Also, check the web sites for these guys.

Tom
WA1RHP

595. Re: 814 vacume tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: Tom Pfaffenbach <tvpfaffe@mail.delcoelect.com>
Message-ID: <4e02qa$5ge@kocrsv08.delcoelect.com>
Source record: 107913

The 814 is a 65w plate dissipation beam tetrode. It requires 10v @3.25 amperes for the filament
and 300v for the screen. Typical operation to 30 MHz in class C would be Plate Voltage 1250 to
1500v @ 150 ma plate current. Grid drive 10ma @ -90v. I believe that the 814 may have been used
in the Hallicrafters T-20 and Collins KW-1 transmitters just after WWII. It is useful as a screen supply series regulator, or as a power amplifier in medium power applications. Pinout is
1&5 filament, 3=control grid, 2=screen grid, and 4=Beam Forming electrodes.

596. Re: QST Antenna Tuner Kit-First Impressions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: datwyler@aros.net
Message-ID: <4e02li$bov@news.aros.net>
Source record: 107914

In article <4csf5c$b0o@newsbf02.news.aol.com>, w8jitom@aol.com says...
>
>In article <1996Jan6.185503.8669@ohstpy>,
>garland@ohstpy.mps.ohio-state.edu (JIM GARLAND) writes:
>
>>My only quibble with the kit is the printed circuit board. The board
>itself
>>is
>>of high quality. It is double-sided, with thru-plated holes, green
>>solder-masking, and silk-screened component outlines shown in white. My
>>concern
>>about the board is that the large majority of the traces seem to be
>extremely
>>thin. I couldn't measure them, but I'd guess a maximum width of 10 mil,
>and
>>probably less, perhaps even 6-7 mil. (all the relay control lines are
>wired
>>this way.) Further, the pad sizes seem too small
>>relative to the holes in the pad. I'm not an expert at PCB layout, but
>I'd
>>think that a pad should have a minimum of 10-15mil of metal around each
>hole.
>>The majority of holes on the board have significantly less metal than
>this.
>>In
>>fact, a majority of the holes were drilled slightly off-center in the
>pads,
>>so
>>that there is no metal at all on one side of the hole!
>>
>>
>
>Hi Jim, This sounds like the boards I get from out of house layout shops
>that never work with RF. That's too bad. Maybe you could point that out to
>the kit supplier, because your observations illustrate a big problem.
>Somewhere I heard the rhyme short and thick does the trick. I assume that
>meant RF traces.
>
>73 Tom

I hope I am happy when mine arrives. As for the short and thick, that depends on the signal in RF. Some microwave circuits depend on "controlled" length and thickness, though better called width here, since thick is the depth of the copper clad. In my designs (I design electronics for a few paying customers),

width is important in power supply to reduce I-R losses, as well as some key analog traces.

I will post as soon as I finish building my tuner to let others know what I think of it.

Douglas L. Datwyler WR7O
datwyler@aros.net

597. Info needed on how to design UHF coils using pcb tracks instead of wire

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: JURGEN.FECHNER@Sunderland.Ac.UK
Message-ID: <4dvtpv$8tc@orac.sunderland.ac.uk>
Source record: 107915

Is there anyone who can help me with some information about printed inductors?

Jurgen

598. Re: Toroid permeability ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4dvntf$mqi@info4.rus.uni-stuttgart.de>
Source record: 107916

>....but some surplus stores in Toronto have a wide
>assortment of bins of unmarked toroids. It would be a nice
>cost-effective altenative to having to order new ones if we knew what we
>had sitting at our doorstep.

May be I am wrong, But I expect that 99% of surplus toroids
are intended for frequencies below 1 MHz (switch mode PSU's?)

73, Moritz DL5UH

599. Re: Need Help Indentifying Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: "Paul D. Seyler" <Paul_Seyler_at_AOS500@admin.tc.faa.gov>
Message-ID: <3103C8EB.128D@admin.tc.faa.gov>
Source record: 107917

Thom wrote:

> If you can can tell me which leads are the emmitter, collector and base
> I'd appreciate it...more importantly, if you could tell me how to figure
> it out, myself, I woun't have to bother you the next time.
>
> thom@li.net

On the TO-18 and other metal can cases the emitter is the pin closest
to the tab, the base is next, then the collector.

600. Re: New Book about TESLA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: aranders@kosepc01.delcoelect.com
Message-ID: <4e04fs$5tj@kocrsv08.delcoelect.com>
Source record: 107918
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.homebrew

In <96020.132601U60082@uicvm.uic.edu>, <U60082@uicvm.uic.edu> writes:

>We have translated the book: Tesla's Correspondence with Relatives in
>ENGLESH.

If this is indicative of the quality of the translation, I'll pass. :-)

601. Re: Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: bigjon1@ix.netcom.com
Message-ID: <4e0k93$a9b@ixnews8.ix.netcom.com>
Source record: 107919

In <4dkf20$dju@cloner3.netcom.com> timhynde@ix.netcom.com(Tim Hynde
ka8ddz/qrp Rochester, MI) writes:
>
>
>There is a guy in AZ somewhere that advertises a book called CB to 10
>mtrs, I see the ad alot. I wrote for a catalog of his offerings about
a
>year ago and he seemed to have alot of conversion information. Check
>the ham mags for his ad.
>
>73, Tim

His Email is LOU@CBCINTL.COM
Good luck!

KC5MOP

602. Re: ***ONE OF THE BEST HAM WEB PAGES ON THE INTERNET. TRY IT OUT!!***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: jlyons@CAM.ORG
Message-ID: <4e0m8n$gmh@stratus.CAM.ORG>
Source record: 107920
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

On 18 Jan 1996, Ken Durham wrote:

> In article <4dk7io$kd1@fnord.dfw.net>, dmclean@dfw.net says...
> >
> >Hello all:
> >
> > In the last message that I sent over usenet I forgot to include my
> >url for my web site. The URL is "http://www.dfw.net/~dmclean".
> ~~~~~~`
> I tried this URL yesterday and again this morning with no results. Netscsape
> keeps contacting the host forever. Please try your page from another site and
> see if it can be accessed.
>
> Ken Durham K5MBV mbv@ti.com
>
>
>
I had no problem accessing it yesterday (Sunday) afternoon, twice ...
once via Netscape and once via Lynx.

Jim Lyons

603. Re: Balun Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: Tom Pfaffenbach <tvpfaffe@mail.delcoelect.com>
Message-ID: <4e0cfh$6la@kocrsv08.delcoelect.com>
Source record: 107921

Try 11 trifilar turns #14 formvar or TFE insulated wire. Connect the turns in series. Ground at
the far end of the first turn. Balanced output at bottom and 2/3 tap. Unbalanced feed at top (to
ground). Generally a 2.4 " dia Q-2 material 1/2 " thick is used, but your 1.125" thick material
probably won't saturate at 1000w.

604. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-22 00:00:00 UTC
From: Jason Douglas <jdouglas@mitre.org>
Message-ID: <4e0skc$dm9@linus.mitre.org>
Source record: 107922

mjsilva@ix.netcom.com(michael silva) wrote:
>>
>>I seem to remeber a few posts a while back about being able to
>>tune in SSB stations with an AM radio (SW) by just running a
>>477 khz oscillator near it.... Is this true?
>
>Excuse me for reminiscing, but this was the first RF homebrew project I
>ever tried (or at least the first that worked). I built an outboard
>6AU6 BFO for my Star Roamer so I too could decipher that monkey
>chatter.
>

>
Mike: You're far more ambitious than I. I used to just take a little
portable AM radio and vary the tuning until its LO was heterodyning with
something in the target receiver. I admit that's pretty lazy, but it
works. Regards,
John Kelly K4XC

605. Re: Custom meter scales!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <96023.211155IFF161@DJUKFA11.BITNET>
Source record: 107824

Just a word of warning! You can just divide up an arc into equal segments and get a nice looking scale but it is likely to be inaccurate. To do a good job you should measure a bunch of angles versus current and construct a smooth scale by interpolation on the measured points (or measure ALL the places where there are to be scale divisions!). I would suggest 10 or so measured points. The problem is that the magnetic fild is not strictly uniform over the region used by the meter coil. There are various reasons for the nonuniform field but the end effect is a nonlinear scale which is dealt with in different ways by different commercial makers. One technique is to have several scales with different sorts of common nonlinearities built in. Then pick the one most nearly matching the movement. Hewlett Packard had a machine which could follow the needle as different currents were applied to the movement and construct a very nice scale from the measurements. (I suspect writing the scale onto a film.) This scale then belonged only to the tested meter.
For one time only users, doing it by hand is not a bad job. I recently made a scale and the result was good (without any computer but working on an enlarged master followed by photcopy size reduction.)

Bob<iff161@djukfa11>

606. Re: varator diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: "James P. Meyer" <jimbob@acpub.duke.edu>
Message-ID: <Pine.SOL.3.91.960123161536.6028D-100000@godzilla5.acpub.duke.edu>
Source record: 107825

On Tue, 23 Jan 1996, Tom Bruhns wrote:

> : This may sound crazy, but measurements with a network analyzer show
> : that green LEDs make excellent, high Q, varactors. You should dip the
> : LEDs in black paint to prevent ambient light from getting to the junction
> : though.
>
> Well, you're sure right, it sounds a bit crazy! Do you have more info on
> this?

My boss spent all night measuring "real" varactors and every
other kind of diode he could find. Results showed green LEDs with the
highest Q (lowest series R) of all. Cap ranges around 10 to 5 pF and
useable to a reverse bias of 10 to 15 volts.

I failed to make the connection between the varactor number given
and the requirement for any real power. LEDs *would* be limited to the
milliwatt range. We used them in VCOs and VCXOs.

> range, centered in the VHF and UHF ranges, and finding low capacitance
> varactors with good Q has been difficult. But I also suspect the green
> LEDs will have large enough area that they won't be particularly low
> capacitance.

Try one and see. You may be as pleasantly surprised as I was.

Jim

607. pc boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: thebots@aol.com
Message-ID: <4e4cqa$bv3@newsbf02.news.aol.com>
Source record: 107826

Does anyone know of a supplier for bare copper-clad pc boards in odd sizes?

608. Re: New Meter Faces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4e341r$dit@globe.indirect.com>
Source record: 107827

Probably a better way to create meter faces and other scales is to draw them by a simple computer program. Borland's Delphi product makes drawing and printing Windows graphics under program control very easy, and you can calculate the spacing of the lines and so on if you know your graphics math.

Just a thought.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

609. Re: QST UHF Noise generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.45.01694B57@azstarnet.com>
Source record: 107828

In article <4e33h0$rg4@itchy.itsnet.com> Allen Wallace <allen@dtint.dtint.com> writes:
>From: Allen Wallace <allen@dtint.dtint.com>
>Subject: Re: QST UHF Noise generator
>Date: 23 Jan 1996 16:48:32 GMT

[snip]

>Yes. I know I'm cheap and ought to use the NoiseCom diode, however I
>haven't purchased one yet! I do have a few 1N21 diodes and I was
>wondering the how they compare.

Not even close.

>I figure I need to amplify a noise source of 20 ENR about 40-50 db to use
>this as a broad-band signal source to use in lue of a tracking generator
>for my spectrum analyzer.

I think we discussed this idea here before and decided it wasn't as easy as it
looks, but my memory is dram without a refresh these days.

>The Mini-Circuts MAR-4 (8 db gain) only drops 0.2 db from 100 Mhz to 1500
>Mhz, and drops only another 0.3 do to 2000 Mhz. If I cascade 6 of these
>babies, I'll get about 50 db of gain, however any more and I'll exceep
>the 1db compression. This would give me a flat noise source with less
>than 2 db of dropoff.

You better take a look at the effects of the mismatches between a handful of
these things. The specified 1.6 in and 2.0 out SWRs look like cascaded
ripple trouble to me. I have only the tabular data in front of me but I note
that the figures are "typical". Your mileage (and gain) may vary.

>Maybe I'll try a MAV-11 MMIC as the final amplifer, as it has a 18 dbm
>max power, but it is not very flat.

>Has any one had any experience with this sort of thing?

610. Dry Cell sizes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9600238224.AA822443981@mails.imed.com>
Source record: 107829

There has been a thread on Ham-Homebrew about how to put a "blank" AA dry cell in a pack when going from Nicad to Alkaline. This reminded me of something I saw when putting the kids' toys together at Christmas. Many of the toys use a reducer and a AA cell where there is intended to be a C cell during normal use! These are found primarily on the toys that scream "TRY ME" to the kids. (I'm a big kid at heart and it drives my wife nuts. "How can I teach the kids not to touch when you do?").

So the moral is: if you have something that uses C cells and you need an emergency supply, you can wrap something around a AA and get a C cell.

Ray Mack
WD5IFS
mack@mails.imed.com

611. Re: QST UHF Noise generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: Allen Wallace <allen@dtint.dtint.com>
Message-ID: <4e33h0$rg4@itchy.itsnet.com>
Source record: 107830

In article <199601202149.PAA26226@tri.net> Lawrence Stoskopf,
stoskopf@tri.NET writes:
>>I'm too cheap to buy a NoiseCom diode, and I!d like to try a 1N21
>>microwave diode instead.
>
>Come on. For all you have probably invested, what's a little bit more.
And
>besides, what other RF company can you call a probably have the company
>owner answer the phone....he did for me twice.
>

* some stuff cut here *
>
>>The final use for the noise source is to amplify the noise with 6 or so
>>MMIC amplifiers and use the noise with my spectrum analyzer to measure
>>filter response, etc, up to 2 GHZ. The noise hopefully should be flat
>>across the spectrum.
>
>How flat do you think that many MMICs will be?

Yes. I know I'm cheap and ought to use the NoiseCom diode, however I
haven't purchased one yet! I do have a few 1N21 diodes and I was
wondering the how they compare.

I figure I need to amplify a noise source of 20 ENR about 40-50 db to use
this as a broad-band signal source to use in lue of a tracking generator
for my spectrum analyzer.

The Mini-Circuts MAR-4 (8 db gain) only drops 0.2 db from 100 Mhz to 1500
Mhz, and drops only another 0.3 do to 2000 Mhz. If I cascade 6 of these
babies, I'll get about 50 db of gain, however any more and I'll exceep
the 1db compression. This would give me a flat noise source with less
than 2 db of dropoff.

Maybe I'll try a MAV-11 MMIC as the final amplifer, as it has a 18 dbm
max power, but it is not very flat.

Has any one had any experience with this sort of thing?

612. Nature radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: maxie@xs4all.nl
Message-ID: <4e1g5d$bth@news.xs4all.nl>
Source record: 107831

Hello,
I would like to read more about nature-radio.
Can someone point me to information on the net of to recent magazine
articles?

Thank you, and 73..

M. H. A. Baars = Max PA3GEC = e-mail maxie@xs4all.nl
Interested in: = packet bbs pa3gec@pi8zaa
Homebrew T&M and radio equipment, live music, girls, beer

To invent, you need a good imagination and a pile of junk
-- Thomas Edison
---

613. Re: WANTED: 72 ohm twinlead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960123171904.16935A-100000@biggulp.callamer.com>
Source record: 107832

Belden still makes this twinlead. They also make 150 ohm material which
is also of use in baluns..73 Cliff Buttschardt W6HDO

On Tue, 23 Jan 1996, James P. Meyer wrote:

> Gary Stone <garystone@texoma.com> wrote:
>
> >My brother-n-law (KI7XQ) is looking for about 3 feet of 72 ohm twinlead
> >for a balun on an antenna project. I know very little of the project,
> >but he does not have internet and I wanted to try and locate a source for
> >him.
>
> For just 3 feet, he would be better off making the twinlead
> himself out of copper or aluminum tubing. The diameter and spacing should
> be easy to calculate or adjust from measurements.
>
> In the olden days, that's the way *real* hams did everything.
>
> 8-)
>
> Jim
>
>
>
>

614. Re: Need Help Indentifying Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan23.183415.27278@ke4zv.atl.ga.us>
Source record: 107833

In article <4e00lb$mv2@news.iii.net> "Thomas C. J. Sefranek" <sefranek@iii.net> writes:
>Hi Thom
> The lead nearest the tab is the emitter, the lead farthest from
>the tab is the collector, the lead in between is the base.
>A 2N2222A is a better device, no one makes 2222's, only the A devices.
>Any specifications book (Motorola, Harris, National) has a wealth of
>information on transistors. Also, check the web sites for these guys.
>
>Tom
>WA1RHP

The 2N2222 is still available (in plastic packaging) as far as I know. And I've seen 2N2222s in TO-5 packaging, but I don't think those are made anymore. For metal can packaging, I believe you're correct that only the 2N2222A is currently produced. The main difference is that the A device has a tighter beta specification and is offered in the TO-18 cans.

The 2N2222 family is *the* generic NPN switching transistor, though the 2N3904 and 2N3906 are also very popular. For most uses, any of the generic devices will work.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

615. Collins KWM-380

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: Sandy Knepper <slkst29.@vms.cis.pitt.edu>
Message-ID: <4e3p11$hb5@usenet.srv.cis.pitt.edu>
Source record: 107834

Does anyone know of someone who would repair my KWM-380. I have
two circuit boards (control and synthesizer) that must have a
bad chip. Are there any boards available or nonworking KWM-380s.

Thanks,

Dave, W3BJZ
Publisher of the monthly Collins Journal

(814) 487-7468 (eve.)

616. Re: WANTED: 72 ohm twinlead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <4e377j$ie1@crl.crl.com>
Source record: 107835

Gary Stone (garystone@texoma.com) wrote:

: My brother-n-law (KI7XQ) is looking for about 3 feet of 72 ohm twinlead
: for a balun on an antenna project. I know very little of the project,
: but he does not have internet and I wanted to try and locate a source for
: him.

You can't realize this transmission line with twinlead construction.
For an impedance that low, the diameter of the conductors is greater
than the spacing:

s = center to center spacing
d = wire diameter

Zo = 276 LOG(2s/d)

Usually transmission lines using twinlead type construction have Zo
values in the *hundreds* of ohms.

You can still make a 72-ish ohm balanced transmission line, however,
if you use a different type of construction:

Take four (4) sections of RG-59 (73 ohm coax) of equal length and
run them in parralell. Solder all the shields together on both
ends. Now, connect the center conductors together in pairs.
Cable A and B should have their center conductors connected
together on both ends, and cable C and D should have their
center conductors tied together. You now have a 73 ohm
shielded *balanced* transmission line. I will try to render it
in ascii:

```
-----------------------------------------
-----------------------------------------
/ ---------------------------------------- \
-------------------------------------------------------
IN ---------------------------------------- OUT
-------------------------------------------------------
\ ---------------------------------------- /
-----------------------------------------
-----------------------------------------
```

If you could find (or make) 37.5 ohm coax, you would need only
two parallel coax lines instead of four. It would not be
necessary to use pairs of coax's to get 37.5 ohms per side for
a net 75 ohm balanced line.

Have fun!

--

Don Miller
dmiller@crl.com
----

617. Re: WANTED: 72 ohm twinlead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <31045517.7581956@news.duke.edu>
Source record: 107836

Gary Stone <garystone@texoma.com> wrote:

>My brother-n-law (KI7XQ) is looking for about 3 feet of 72 ohm twinlead
>for a balun on an antenna project. I know very little of the project,
>but he does not have internet and I wanted to try and locate a source for
>him.

For just 3 feet, he would be better off making the twinlead
himself out of copper or aluminum tubing. The diameter and spacing should
be easy to calculate or adjust from measurements.

In the olden days, that's the way *real* hams did everything.

8-)

Jim

618. Re: Toroid permeability ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: cwhiffen@atl.mindspring.com
Message-ID: <4e1ibe$ons@stealth.mindspring.com>
Source record: 107837

moritz@ipers1.e-technik.uni-stuttgart.de () wrote:

>>....but some surplus stores in Toronto have a wide
>>assortment of bins of unmarked toroids. It would be a nice
>>cost-effective altenative to having to order new ones if we knew what we
>>had sitting at our doorstep.

>May be I am wrong, But I expect that 99% of surplus toroids
>are intended for frequencies below 1 MHz (switch mode PSU's?)

>73, Moritz DL5UH
>
I have found lots of different kinds here. -43 ferrites, powered
iron, etc.

619. FS 486 & 386 Processor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: wa8ulx@aol.com
Message-ID: <4e31dp$id7@newsbf02.news.aol.com>
Source record: 107838

I have an Intel 486DX-25 processor and 386DX-25 processor for sale if interested I can be reached at WA8ULX@AOL.COM 73 bRUCE

620. coax and connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: richard@andes.sps.mot.com
Message-ID: <4e33hv$mgt@newsgate.sps.mot.com>
Source record: 107839

Where is a good place to get coax and connectors? I don't want to be more specific than this since I am interested in projects from HF to microwave.

--

```
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/ \ / \ / \ /\/ \ / \_/\_/ Y \ /\/\/ \
u \/ \___/ \/ \ / \/ \
----------------------------------v------------------------------
```

Richard Christensen KC7JPQ
richard@andes.sps.mot.com Go Cougars!! Beat Utah!!!
richard@dolphin.autosoft.com
Wk Ph. # (512) 891-6686

621. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: VillyM@cus.cul.ca
Message-ID: <4e3aml$k8e@missun.cus.cul.ca>
Source record: 107840

In <DLL8A4.IA8@ncifcrf.gov>, mack@ncifcrf.gov (Joe Mack) writes:
>I did this when I was a kid, tuning in hams on a SW receiver
>before I got my ham license. You don't need a crystal oscillator,
>any oscillator will do and I just draped a wire from the oscillator
>into the back of the box of the radio - no solid connection.
>
>
I did it by adding regeneration to the last iF stage, and then advancing the gain until
it just started to oscillate. Worked, and even dramatically increased the selectivity...

Villy VE6SQ

622. Re: ANY INFO ON AM912A/TRC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4e3288$p3h@morgan.vf.mmc.com>
Source record: 107841

Gary,

I would guess that the efficiency will be as good or better than a strip line or tuned line design. With the silver plating it will be a little better but not a whole lot. I would suggest using the 250. Use one of the 250 amp designs from an older ARRL handbook to determine the bias voltages required and how to key it on during transmit.

I would expect somewhere around 55 to 60 % effeciency. I have an AM-6154 amp that uses an 8930 which is essentially a 250 but with a larger plate diameter and around 350 watts dissapation. It works very well and I have gotten 350 or so watts out. I never bothered to calculate the efficiency. There is no reason why you shouldn't get 250 or so watts out.

73, Harry, W3IIT

623. ANY INFO ON AM912A/TRC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: Bill.Ward@f17.n275.z1.fidonet.org
Message-ID: <fc7_9601251148@woodybbs.com>
Source record: 107842

The device that you're describing is presently being sold by a mil. surplus co. named Fair Radio, which is located in Lima Ohio. They may be able to supply you with some if not all of the schmatics of that unit. You can probably use a 4cx250 in it with no problems. One thing that you will to do is build a power supply for it,but if you look in any A.A.R.L. manuals, you be able to find a supply for vhf use using that tube. How you plan to use the amp also should be considered. Different modes require different voltages especially for ssb and fm. I hope this helps.

--- WILDMAIL!/WC v4.10
Origin: AR-NET: Excalibur BBS, 404-608-1907, (73:1501/2) (73:1501/2.0)
--
|Fidonet: Bill Ward 1:275/17
|Internet: Bill.Ward@f17.n275.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

624. Balun Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: Bill.Ward@f17.n275.z1.fidonet.org
Message-ID: <fc6_9601251148@woodybbs.com>
Source record: 107843

I think what you're looking for can be found under the company named
the"Wireman". He sella a unum 50 to 50 ohmns that is based on teflon
coax with ferrite beads. His adress can be found in most ham radio mag.
under that name. Gud luck. N4BLR

--- WILDMAIL!/WC v4.10
Origin: AR-NET: Excalibur BBS, 404-608-1907, (73:1501/2) (73:1501/2.0)
--
|Fidonet: Bill Ward 1:275/17
|Internet: Bill.Ward@f17.n275.z1.fidonet.org
|
| Standard disclaimer: The views of this user are strictly his own.

625. Re: Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: ee formerly known as jeff feigin <hi@wpi.edu>
Message-ID: <Pine.OSF.3.91.960123231534.2524A-100000@res.WPI.EDU>
Source record: 107844

i've seen the "kits," its $50 for a crystal.

jeff

626. Re: WANTED: 72 ohm twinlead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: rs@ham.island.net
Message-ID: <012396212403Rnf0.79b6@ham.island.net>
Source record: 107845

dmiller@crl.com (Donald J. Miller) writes:

>You can't realize this transmission line with twinlead construction.
>For an impedance that low, the diameter of the conductors is greater
>than the spacing:
>
> s = center to center spacing
> d = wire diameter
>
> Zo = 276 LOG(2s/d)
>
>Usually transmission lines using twinlead type construction have Zo
>values in the *hundreds* of ohms.

Your theory notwithstanding, 75 ohm twin lead HAS been available for decades. Look in any ARRL antenna handbook for 214-023. Transmitting type 75-ohm Twinlead has two stranded 7/21 conductors about equal to solid #12 wire with quite close spacing.

--
rs@ham.island.net

627. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: lekollar@nyx10.cs.du.edu
Message-ID: <4e3hr1$b5t@nyx10.cs.du.edu>
Source record: 107846

Thus spake Don Bayomi:

>re: grapefruit powered Transmitter, Did Gilligans Island know about it?

[...]

>I don't recall if there was an episode on Gilligans Island where the
>professor made a transmitter out of a fruit?

I think you're remembering their transistor radio that was usually
playing news reports... it was powered by a string of lemons.
--
Larry Kollar, Dawsonville GA | *** Hatred is murder *** (1 Jn 3:15)
lekollar@nyx.net | http://www.nyx.net/~lekollar/
"His third dimension done been re-VOKED!"

628. MCX100 PROM programming ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8224331276601@lss.humnet.humberc.on.ca>
Source record: 107847

I recently aquired a 16 channel Motorola MCX100 commercial VHF radio.
Wondering if anyone has any info on programming a PROM for it ?

This one has the "R2" VCO board...146 to 174 MHz.
I see by the schematic that it uses 6 nibbles (4 bits wide) for the
programming word. I also note that the PROM address is made up of
the channel selector inputs AND a few bits from the phase comparator/
PLL chip. It appears that the Addressing from the phase detector/PLL
gets clocked out and the data read back...6 times (for the 24 bit word).

I'm wondering how the data relates to the desired frequencies and
where the data should be placed (what addresses) ?
Also wondering what the synthesizer step size is ?

The easier solution to all this is to have someone program a PROM
for me but thats too easy :)

Curious....Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

629. Re: varator diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4e3o2q$al0@hg.oro.net>
Source record: 107848

>>Does anyone have a source of varator diodes.

> This may sound crazy, but measurements with a network analyzer show
>that green LEDs make excellent, high Q, varactors.

That's a great idea; I never even considered that possibility!! You wonder who thinks of this sort of thing, don't you? Has anybody done the same tests on the other colors?

Any good RF transistor has a good varactor in the reverse-biased collector-base junction. If you want a low-power varactor, pick a low power transistor. High power, use a power RF device.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak
RST Engineering | for the company. I OWN the freakin'
Grass Valley CA 95945 | company.
voice/fax 916/272-1432 | AR Adv. WB6BHI Cessna 182A N73CQ
rst-engr@oro.net | Comm'l Pilot & CFI Airplane/Glider A&P Mechanic

630. Re: coax and connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: phantom@node2001.com
Message-ID: <D1P7HD1w165w@node2001.com>
Source record: 107849

richard@andes.sps.mot.com (Richard Christensen) writes:

>
> Where is a good place to get coax and connectors? I don't want to be
> more specific than this since I am interested in projects from HF to
> microwave.
> --

Well Richard, My company buys from Mouser Electronics in Tx. They have
a policy that allows them to "sample" you a connector... Its good to get
a few free parts to see exactly what you are getting before you buy
a large quantity.... the # is 800-346-6873... open 14 hours a day
7am-9pm CT.

Brooke Flecknell
TVRO Tech.
Fleck*Star Communications
506-832-5854

phantom@node2001.com (Brooke flecknell)
Node2001 UUCP and Mail Site -- +1 506 652 9662

631. Impedance of RG316 tefloncoax?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-23 00:00:00 UTC
From: geertj@ripe.net
Message-ID: <DLnEHM.1Do@inter.NL.net>
Source record: 107923

Does anyone know the impedance of RG316 tefloncoax?

Thanks,

Geert Jan

632. VHF Oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: "Golden E. Murray" <70641.1177@CompuServe.COM>
Message-ID: <4e44g8$r8h$1@mhadg.production.compuserve.com>
Source record: 107850

I would like to make a simple oscillator to use with an HT on 2M to help some of my friends upgrade their licenses. What I was thinking about is whipping up a simple oscillator which could be hooked up to a telegraph key and then to the microphone connector on the HT.

How would I determine the maximum power output to the HT that would not blow out the microphone circuit. Also, could I power the device with a 9V battery and send the output from the oscillator into the mic input of the HT or would this cause any problems?

Thanks,

Golden E. Murray
AB7IK
70641.1177@compuserve.com
ab7ik@byugate.w7ohr.ampr.org
Packet: ab7ik@nv7v.ut.us.noam

--
Golden E. Murray

633. Re: Need Toshiba S-AV17 amp module source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <4e6e99$fiu@canyon.sr.hp.com>
Source record: 107851

Elmar Vaher (ekv@panix.com) wrote:
: Cant seem to find this module anywhere. Digi-Key or Mouser does not have
: it.
: This is for building the 2M brick in the 1996 Handbook.
: Toshiba S-AV17 amp module.
: Any help in getting a source as well as hints on building the brick would
: be greatly appreciated.

Try RF Parts Inc in San Marcos, CA. They advertize in most of the major amateur magazines. They may even have PIN switches and other supporting hardware modules that they don't advertize.

My 'hint' would be to interface to the brick(s) with a PC board and to be careful about getting good grounds; both in the contact between the brick itself and your heatsink and in the back side ground of the PC board you use. You should be able to transition directly to 50 ohm microstrip from the brick that way.

Also, be sure to bypass and decouple your supplies well. It may be possible with some bricks to destroy them with low frequency oscillations.

Glenn Elmore n6gn

634. Re: Lowfer help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960124165030.6348H-100000@biggulp.callamer.com>
Source record: 107852

Mark, I do not know of any FTP servers but there is a LOWFER BBS run by
John H. Davis who edits "The Notebook" column in the LOWDOWN. His BBS is:
706 672-0360. That is a good place to start. Cliff Buttschardt W6HDO

On Sun, 21 Jan 1996, Mark Mansfield wrote:

> Does anyone know if there is a listserver for Lowfer stuff?
> I'm interested in any info and pointers to ftp sites that contain Lowfer
> related files.
>
> Thanks,
> Mark
>
>

635. WTB-Western Electric

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: rickn76227@aol.com
Message-ID: <4e5lpd$23h@newsbf02.news.aol.com>
Source record: 107853

I collect WE stuff. I am interested in buying nearly anything made by or for them. Please email me if you have anything to sell or trade.

Thanks

636. Re: Need Help Indentifying Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4e43pg$28s@peabody.colorado.edu>
Source record: 107854

>From thom@newshost.li.net Tue Jan 23 18:01:07 MST 1996

>If you can can tell me which leads are the emmitter, collector and base
>I'd appreciate it...more importantly, if you could tell me how to figure
>it out, myself, I woun't have to bother you the next time.

If you take transistors two leads at a time, they look like two diodes
back to back, the O's being the leads coming out of the thing:

O---->|----O---|<-----O PNP

| pin1 | pin2 | pin3

O----|<----O--->|-----O NPN

The base is the center one IN THIS DIAGRAM, that is, the one that is
diode-connected to both other pins, but it NEED NOT BE the pin in the
center of the device. Usually the tab is the "emitter tab" if there is
one, but for the three-legs-in-a-row package, EBC and BCE are both common.

Neither applied polarity conducts through the outer pins IN THIS DIAGRAM,
up to the breakdown voltage of the device.

If you have a DMM with a diode test function (which tells you the forward
voltage drop of the junction when biased with some fixed, small current)
then you can identify the collector as the pin with a few mV less drop than
the emitter, with a few more mV drop.

The magnitude of the drop tells you what kind of transistor it is:
Simple silicon beasties have about 0.6 volt drop for both diodes (so
figures of, say, 0.592 volts base-collector, 0.595 volts base-emitter
might be typical values).

Darlingtons have twice the drop, so values near 1.2 volts (for silicon) are
seen between the pins.

Germanium (diodes, transistors) have only 0.1 to 0.3 volts drop, so you spot
those too, though another hint is that germanium has fallen by the wayside,
so the packages look old. The more modern packages, like the hemicylidrical
plastic TO-92, and all the RF-tab ceramic power things, were invented later,
and I know of no Ge transistors in these packages. For Ge too the BC diode
has a bit less forward drop than the BE diode.

I doubt Ge darlingtons are common enough to worry about.

JEFTS look like back-to-back diodes just like bipolars do, but differ in
having some moderate resistance between the "outer" (singly-connected) pins,
and this resistance changes markedly when you poke the "center"

(doubly-connected) pin. (Bipolars are open between E and C.) The former are D and S, the one you poke is the gate. I've heard contradictory claims that the D and S of JFETS are or are not interchangeable. Perhaps someone in the know could comment on this?

MOSFETS vary; one pin will be open both ways to the other two, this is the gate. Some FETS have protection diodes between S and D, so they look open or a resistor one way (depending on the potential of the gate at the moment) and look like a diode drop the other way, so you know which way the supply goes, but you won't know yet if it's p- or n- channel. If you keep the voltages low enough, like below a diode drop, I doubt you'd blow the thing hooking it up wrong in an attempt to learn which of the remaing pins is S and which is D (and by twiddling G, if it's p- or n-, and enhancement or depletion) - I think they look like low-value resistors one way, and I'm not sure what the other way, when the gate is biased towards conduction between the other two pins.

I've seen the BC junctions of 2N2222A's spec'd as high-performance diodes, not even using the third lead, and also as "superdiodes" made by tying B to C: these turn on much more quickly than diodes from the gain of the transistor (and so also the forward drop is a bit less than when looked at in the regular diode way). Many silicon E-B junctions look like shoddy 8V zeners, but using them this way might degrade the transistor if employed in the usual way later. Some of the earlier brown- or tan-plastic packaged transistors are unwittingly phototransistors, as the plastic is not perfectly opaque. Same with some early metal-can transistors, where the pins come out (and the light can come in) through brown plastic.

I hope this helps.

Bruce Tiemann
N6URH

637. Re: Collins KWM-380

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4e42n2$7vl@newshost.lanl.gov>
Source record: 107855

(This is a second try since your listed email address refused
to respond)

I maintain several KWM-380's and HF-380's and have a priceless
service manual for them. I even have a junker or 2 but they
are not for sale. How about some symptoms? Maybe we could
narrow down which board it may likely be...
and go from there.
--
|---|
|Jim Devenport |
|All Standard Disclaimers Disclaimed |
My views rarely (if ever) reflect those of my employers

638. WTB & FS UHF Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: hepc@earthlink.net
Message-ID: <4e4254$p26@bolivia.it.earthlink.net>
Source record: 107856
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I have transmit and receive crystals for the
following frequencies:
457.525, 457.550, 457.575, 457.600 MHz

I am looking for a transmit and receive crystal
for any frequency in a 440-450MHz simplex band such
as 445.000, 445.100, 445.150 MHz, etc....

I will trade all of the 457 MHz crystals for the
445MHz set.

--73, Todd KE4UDN

Todd Owen Hanover Engineers, P.C.
Richmond, VA 804-730-0011

ke4udn@amsat.org

---

639. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: Jack Mott <jmott@borah.ebr.anlw.anl.gov>
Message-ID: <Pine.SUN.3.91.960124230758.20069G@borah.ebr.anlw.anl.gov>
Source record: 107857

This is only a test.

640. Re: Need Toshiba S-AV17 amp module source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4e6eln$2pm@nntp.Stanford.EDU>
Source record: 107858

In article <4e5qgn$c7c@panix.com> ekv@panix.com (Elmar Vaher) writes:
>Cant seem to find this module anywhere. Digi-Key or Mouser does not have
>it.
>This is for building the 2M brick in the 1996 Handbook.
>Toshiba S-AV17 amp module.
>Any help in getting a source as well as hints on building the brick would
>be greatly appreciated.
>
>
>--
> Elmar Vaher **********----------**********
> ekv@panix.com

Try RF PARTS. I think they are still advertising in QST.

Steve Muther WF6R

641. Re: need schematic for HP 3310

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960124171857.6348K-100000@biggulp.callamer.com>
Source record: 107859

Does anyone have a schematic for the Hewlett Packard function generator
HP 3310? As I understand it, there were not too many made. I assume
that I can fix the device with just a schematic and would appreciate
knowing where I might obtain one. 73 Cliff Buttschardt W6HDO
Cuesta College--Engineering Tech
P. O. Box 8106
San Luis Obispo, CA 93406
TNX

642. FS:WCC100 Soldering Iron tips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: byron_hellewell@out.trw.com
Message-ID: <1996Jan24.130405.1455@batman>
Source record: 107860

For Sale 25 ETO long conical soldering tips.
New and unused. For the Weller WCC100 temp controlled Iron.
Sell all 25 for $25 Retail about $5 each.
e-mail byron_hellewell@out.trw.com

643. Re: Increasing the Power of the QST Antenna Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: Kory Hamzeh <kory@avatar.com>
Message-ID: <Pine.BSD/.3.91.960124193059.28141A-100000@avatar.avatar.com>
Source record: 107861
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On Sun, 14 Jan 1996, Gary Coffman wrote:

> In article <Pine.BSD/.3.91.960113193015.27938B-100000@avatar.avatar.com> Kory Hamzeh
<kory@avatar.com> writes:
> >
> >I really liked the QST Antenna Tuner Project in the Jan 96 issue, but I
> >need a tuner that can handle up to 600 watts. Can some kind soul explain
> >to me what needs to be upgraded to handle 600 watts?
>
> The L network components, and the relays, need to be upgraded to handle
> the higher power. The circuit board probably won't work either, traces
> too thin and too close together, and the new parts probably won't fit
> either. A new relay driver circuit will likely be needed too. You can
> recalibrate the VSWR measuring circuit and use the custom microprocessor,
> but everything else needs to be replaced.
>
>
> Gary

Hi Gary,

The other problem I think I will defintly run into is all of the RF
energy getting to the microprocessor. I'm not quite sure how to isolate
it, other than shielding the microprocessor in a metal enclosure.

Kory

644. Re: Adding lighting to Red Lion Controls counter modules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: faunt@netcom2.netcom.com
Message-ID: <FAUNT.96Jan24144925@netcom2.netcom.com>
Source record: 107862
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

No response so far, but an alternative question.
Does anyone have an address or other contact information for Red Lion Controls?
73, doug

Newsgroups: sci.electronics.components
From: faunt@netcom11.netcom.com (Doug Faunt N6TQS +1-510-655-8604)
Date: Tue, 23 Jan 1996 06:40:39 GMT

Has anyone added lighting to Red Lion Controls counter modules, as sold by DigiKey? I want to use one in the car, but I want to be able to see it, night and day, easily. Are any of them easier to illuminate than others?
73, doug

645. Duplexer to Bandpass Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: ve8ev@gov.nt.ca
Message-ID: <1996Jan24.235015.28694@gov.nt.ca>
Source record: 107863

I have a 3 cavity mobile VHF duplexer that I would like to re-configure
as a 2m bandpass filter. Is this possible? How would I go about it?

Thanks for any info, please reply direct...
73
John VE8EV

==========
John Boudreau - VE8EV E-mail: ve8ev@amsat.org
Inuvik, NWT Packet: VE8EV@VE8EV.#INU.NT.CAN.NOAM
CANADA VE8EV@KO-23/KO-25
==========

646. Recieve Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: dstuart@saucer.cc.umr.edu
Message-ID: <4e5s4f$lk1@hptemp1.cc.umr.edu>
Source record: 107864

For approximately 100 MHz, a good antenna would be around 1.5 m. Right?

--
-- Dave Stuart
dstuart@umr.edu
University of Missouri -- Rolla

KB0SLY

647. Switch-mode audio amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4e5c7p$8rl@cloner2.ix.netcom.com>
Source record: 107865

I'd like to build a switch-mode amp that can deliver, say, about 2 watts to a 3.2 ohm speaker (it'll be powered by 12 volts). Does anyone know where to find articles or references discussing these types of amps? Ed Oxner's "Power FETs" book discusses them a bit, but I'd like more info.

Thanks!

- Jeff, WA6AHL

648. Re: WANTED: 72 ohm twinlead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: depolo@blue.seas.upenn.edu
Message-ID: <4e4eo3$1im@netnews.upenn.edu>
Source record: 107866

Donald J. Miller wrote:
>
> Gary Stone (garystone@texoma.com) wrote:
>
> : My brother-n-law (KI7XQ) is looking for about 3 feet of 72 ohm twinlead
> : for a balun on an antenna project. I know very little of the project,
> : but he does not have internet and I wanted to try and locate a source for
> : him.
>
> You can't realize this transmission line with twinlead construction.
> For an impedance that low, the diameter of the conductors is greater
> than the spacing:
>
> s = center to center spacing
> d = wire diameter
>
> Zo = 276 LOG(2s/d)

This is not always true. 72 ohm transmitting line is a common
item and is readily available from a number of sources. Either
The Wireman, RF Connection, or Radio Works should have it.

The above equation applies only directly to air-insulated parallel conductors.
A non-air dielectric will lower the characteristic impedance, which is what you
see with 72 ohm transmitting line, which uses something like 14 or 12 gauge
wire close-spaced in solid dielectric.

> You can still make a 72-ish ohm balanced transmission line, however,
> if you use a different type of construction:
>
> Take four (4) sections of RG-59 (73 ohm coax) of equal length and
> run them in parralell. Solder all the shields together on both
> ends. Now, connect the center conductors together in pairs.
> Cable A and B should have their center conductors connected
> together on both ends, and cable C and D should have their
> center conductors tied together. You now have a 73 ohm
> shielded *balanced* transmission line. I will try to render it
> in ascii:

Probably easier to take four sections of 300 ohm twinlead and connect
them in parallel. Just keep them safely separated.

--- Jeff

-=-=-=

depolo@eniac.seas.upenn.edu RF: 442.1 442.2 442.4 443.45 443.8 444.15 linked
Claim to Fame: I got the first speeding ticket on the information superhighway
--
-=-=-=

649. Re: Custom meter scales!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4e5cp1$r3v@newsbf02.news.aol.com>
Source record: 107867

In article <96023.211155IFF161@DJUKFA11.BITNET>, Bob Mueller
<IFF161@DJUKFA11.BITNET> writes:

>
>Just a word of warning! You can just divide up an arc into equal
segments
>and
>get a nice looking scale but it is likely to be inaccurate. To do a good
job
>you should measure a bunch of angles versus current and construct a
smooth
>scale by interpolation on the measured points (or measure ALL the places
>where
>there are to be scale divisions!). I would suggest 10 or so measured
points.

I used to manage the D'Arsonval meter area of Prime Instruments. Our low quality "wigglers" had gross non-linearity over their measurement ranges, but the 90 degree deflection high quality movements were *very* linear.

As an interesting note, some customers specified their meters caliberated up to 100% high, but 0% low. That way the charging equipment they sold never "looked bad". That tolerance was necessary on 39 cent wholesale price meters!

Gross non-linearity was usually caused by non-linear spring pressure (the cheap meters either used magnetic zero return or a simple single turn spring), and the pole pieces being poorly constructed. The permanent magnet's poles did not surround the movable coil with a uniform air gap in the cheap meters, so flux density changed as the coil moved through it's arc.

Check the scale linearity when working with unknown meters, especially if the movements are cheaply made!

73 Tom

650. Opinions - Ramsey SX-20

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: kb7et@usa.pipeline.com
Message-ID: <4e6fps$2d8@news1.usa.pipeline.com>
Source record: 107868

I am contemplating diving into the kit-building
experience with the Ramsey SX-20 20-meter
SSB/CW transceiver. Anyone built and/or
operated this rig? I am especially interested
in the CW performance. Opinions welcome by
posting or e-mail.

Thanks and 73,
Jim, KB7ET
kb7et@usa.pipeline.com

651. Re: Need Help Indentifying Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960124164735.6348G-100000@biggulp.callamer.com>
Source record: 107869

Hi Thom and Gary. Noted your comments regarding the plastic 2N2222 and
metal can devices. All true what was said. I do want to put up a
warning and that is the lead configuration is NOT the same. Be careful
when you subsititute!! 73 Cliff Buttschardt W6HDO

On Tue, 23 Jan 1996, Gary Coffman wrote:

> In article <4e00lb$mv2@news.iii.net> "Thomas C. J. Sefranek" <sefranek@iii.net> writes:
> >Hi Thom
> > The lead nearest the tab is the emitter, the lead farthest from
> >the tab is the collector, the lead in between is the base.
> >A 2N2222A is a better device, no one makes 2222's, only the A devices.
> >Any specifications book (Motorola, Harris, National) has a wealth of
> >information on transistors. Also, check the web sites for these guys.
> >
> >Tom
> >WA1RHP
>
> The 2N2222 is still available (in plastic packaging) as far as I
> know. And I've seen 2N2222s in TO-5 packaging, but I don't think
> those are made anymore. For metal can packaging, I believe you're
> correct that only the 2N2222A is currently produced. The main
> difference is that the A device has a tighter beta specification
> and is offered in the TO-18 cans.
>
> The 2N2222 family is *the* generic NPN switching transistor, though
> the 2N3904 and 2N3906 are also very popular. For most uses, any of
> the generic devices will work.
>
> Gary
> --
> Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
> Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
> 534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
> Lawrenceville, GA 30244 | |
>
>

652. Re: 814 vacume tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-24 00:00:00 UTC
From: alan gray <agray@voicenet.com>
Message-ID: <4e3uem$c26@news.voicenet.com>
Source record: 107870

Tom Pfaffenbach <tvpfaffe@mail.delcoelect.com> wrote:
>The 814 is a 65w plate dissipation beam tetrode. It requires 10v @3.25 amperes for the filament
>and 300v for the screen. Typical operation to 30 MHz in class C would be Plate Voltage 1250 to
>1500v @ 150 ma plate current. Grid drive 10ma @ -90v. I believe that the 814 may have been used
>in the Hallicrafters T-20 and Collins KW-1 transmitters just after WWII. It is useful as a
>screen supply series regulator, or as a power amplifier in medium power applications. Pinout is
>1&5 filament, 3=control grid, 2=screen grid, and 4=Beam Forming electrodes.
>

Actually, the Collins KW-1, introduced circa 1952, used 4-250A
tetrodes in parallel in the final.... you may be right about
the HT-20 tho.

Alan, W3VL

653. Announcing FilDes 2.0

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4e6pmh$f96@cc.iu.net>
Source record: 107774

Announcing FilDes 2.0

I would like to draw your attention to the release of the newest
version of my popular filter design program, FilDes (also known as FDS).
FilDes 2.0 is major update to the previous version, and includes the
following new features:

* Design of Bessel (flat group delay) LP, HP and BP filters
* Design of Gaussian to -6 and Gaussian to -12 dB filters in
LP, HP and BP.
* Design of Linear Phase with 0.05 and 0.5 degree equiripple
phase error filters in LP, HP and BP.
* Extensive support built-in for ARRL Radio Designer (r) from
the ARRL and Compact Software(r).
* Computes duals of LP and HP filters for ease in diplexer
design or more realize-able component values.
* A filter "estimator" for Systems Engineers, and others who
don't want to build filters, but need to know how much filter
they need.
* Elimination of all-known bugs.

The following FilDes features are still there, or have been improved.

* Design of LP, HP, BP, BR and narrow BP filters in Butterworth
or Chebychev transfer functions with .001 to 3 dB of ripple.
* Design of Elliptic (Cauer) LP and HP filters.
* These designs carried out by synthesis, not look-up table.
* Calculation of the order required from these filter types to
meet your attenuation requirements.
* Output to text printer or Touchstone (r) .CKT file format.
* Estimate of midband insertion loss for BP filters, based on
component Q.
* Online, context-sensitive help.

The program comes with a companion utility called Airwndl (Air Wound L)
which calculates the number of turns for an air-wound single-layer
solenoid coil. A complete description of Fildes2 is included in the
file FilDes2.doc, and also as a Windows 3.1 Write (r) file, FilDes2.wri.
Everything is in a zipped archive called FDS200.ZIP. It is available
at ftp.lehigh.edu where it is currently found in /pub/listserv/qrp-l/tools.
I have also uploaded it to ftp.ee.ualberta.ca in the directory
/pub/cookbook/softw/ibm. It should be available there shortly.

73,
Bob

Statement of contribution policy: I never turn down cash, but send it
only out of undying admiration, not because of nasty shareware warnings.
FilDes is freeware.

The following bit of "mock legalese" is lifted from FilDes2.doc:

Trademarks, copyrights and the like

FilDes is copyright by Bob Lombardi.

HP, EEsof and Touchstone are registered trademarks and copyrights
of what is now HP/EEsof. HP is a registered trademark of the Hewlett
Packard Company. The ARRL is the American Radio Relay League, the US'
national amateur radio organization. ARRL Radio Designer is copyright
by Compact Software, Inc., and the American Radio Relay League. Windows,
and Windows Write are trademarks and copyrights of Microsoft Corporation.

I have no connection with any of them except for being a member
of the ARRL and a customer of all.

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

654. Re: Impedance of RG316 tefloncoax?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4e6q5v$f97@cc.iu.net>
Source record: 107775

In <DLnEHM.1Do@inter.NL.net>, geertj@ripe.net (Geert Jan de Groot) writes:
>Does anyone know the impedance of RG316 tefloncoax?
>
>Thanks,
>
>Geert Jan

i believe it's 50 ohms (don't have my coax reference here tho...i could be
mixing it up with RG-400..)

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

655. Re: MCX100 PROM programming ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: Andy Brinkley <brinkley@ols.net>
Message-ID: <4e6tch$83h@server2.ols.net>
Source record: 107776

hduff@humnet.humberc.on.ca (Hugh Duff) wrote:
>
>
>I recently aquired a 16 channel Motorola MCX100 commercial VHF radio.
>Wondering if anyone has any info on programming a PROM for it ?

Hugh -

I can't help much with the addressing of the PROM etc, but if you need a PROM burned I have the equipment to burn one for the MCX-100

Andy (N4ROX) "brinkley@ols.net"

656. WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: subbustr@whidbey.net
Message-ID: <4e6tbm$hdv@whidbey.whidbey.com>
Source record: 107777

Use WD-40 on my mobile rig to fix a LCD prob and
it worked!!!! Tried contact/tuner spray and had to
re-apply every 2 weeks, WD-40 no probs fer the
last 6 months..works fine in a pinch.....

de ve7-lfa

657. Re: Announcing FilDes 2.0

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: blombard@bb.iu.net
Message-ID: <4e7v2e$ngb@cc.iu.net>
Source record: 107778

Bob Lombardi (blombard@iu.net) wrote:

deleting much of my post.

: The program comes with a companion utility called Airwndl (Air Wound L)
: which calculates the number of turns for an air-wound single-layer
: solenoid coil. A complete description of Fildes2 is included in the
: file FilDes2.doc, and also as a Windows 3.1 Write (r) file, FilDes2.wri.
: Everything is in a zipped archive called FDS200.ZIP. It is available
note this: ^^^^^^^^^^^
: at ftp.lehigh.edu where it is currently found in /pub/listserv/qrp-l/tools.
: I have also uploaded it to ftp.ee.ualberta.ca in the directory
: /pub/cookbook/softw/ibm. It should be available there shortly.

I goofed. The name of the archive is fds200a.zip. You wouldn't find
the other one anyway, but just in case you're using some sort of program
to get it for you, you should have the exact name.

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

658. WANTED schematic of a IF-100 interface!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: Geert.Pirens@ping.be
Message-ID: <4e6kcl$qp0@ping1.ping.be>
Source record: 107779

Can someone help me on a schematic of an IF-100 interface ?

All information is welkom !

Geert Pirens,ONL2057

659. Re: varator diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: dwentz@basenet.net
Message-ID: <4e6mf0$24l@news.accessus.net>
Source record: 107780

In article <9601221149.AA09737@eagle.rtc-waterford.ie>,
daly@eagle.rtc-waterford.IE says...
>
>Does anyone have a source of varator diodes.
>I want to build tripler to 23cm, but cannot find definite source for
>varator diodes. (BAY66???) any info would be appreciated!
>Thanks in advance.
>
>Warren EI6ETB
>
>daly@eagle.rtc-waterford.ie
>
Try Marlin P. Jones & Assoc. Inc. 1-800-652-6733
Thay have Matched Sets of 3 Varactors MV1662 Motorola
15VDC Max REv 400ma Nax forward I
Capacitance 225pf min 250pf Norm @ 4.0 Vr, Cap ratio=2.3@vr2-15VDC

The only Bad thing is that thay have a 15.00 Min order.

Hope this help
KB9JJA/Dale

660. Re: Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4e807b$mou@mksrv1.dseg.ti.com>
Source record: 107781

>
>i've seen the "kits," its $50 for a crystal.
>
>jeff

Like I said earlier, his prices are astronomical!
You can buy a crystal from JAN Crystals for $10,
do the conversion yourself, and save big buxx!

73 de KC5NG

661. Test Posting

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: jsutton@erols.com
Message-ID: <4e8k8u$j6@zippy.cais.net>
Source record: 107782

```
This is a test posting.
Jim/AC4CZ
```

662. Re: NEED APRS setup help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4e7a8s$ibs@news.onramp.net>
Source record: 107783

>>I need assistance in getting an ICOM Z1A HT configured to my Kantronics KPC-3
>>and laptop computer. I'm anew HAM and don't understand some of the
>>configuration requirements like UNPROTO. Some guys here are trying to help, but
>>no one is yet shall we say an expert with it yet.

MFJ should have a cable for your radio to TNC
I use same one for my HTX-202 and IC-W21AT

The APRS experts have a SIG on TAPR.ORG called aprssig
(I am not an expert but I do have a set of notes on using the KPC-3 with
a GPS as a remote tracker)

set unprot to RELAY to get started then to a APRS digi station in your area.
Some of the setups for APRS (PC) or MACAPRS will do this for you.

73

kc5ejk@onramp.net

663. European archive site?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: Richard Hieber <Richard.Hieber@rrze.uni-erlangen.de>
Message-ID: <4e89fa$41o@rznews.rrze.uni-erlangen.de>
Source record: 107784
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Hi all,

as I tend to use my Usenet browser quite unregulary, I'd prefer to retrieve the traffic of the last few months or so at an archive site. I know the official archive site of r.r.a.antenna and of r.r.a.homebrew somewhere at a stateside location, but the slowness of my access takes the fun out of it.

I'd like to know an archive site for the rec.radio.amateur.* newsgroups somewhere in Europe. I don't need an FTP site for programms or stuff, just archived Usenet traffic. Do you know any, over here in the Old World?

Vy 73,
Richard

--
Richard Hieber, DL8MFQ/AA8CP
EMAIL: Richard.Hieber@rrze.uni-erlangen.de

664. Re: Yaesu FIF-232C information and/or help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: michaelm@doruk.COM.TR
Message-ID: <9601251152.aa06172@bbs.doruk.com.tr>
Source record: 107785

Chester Mccarter <jcmccarter@amoco.com> wrote:

>I have a Yeasu FT747GX and am trying to find a diagram of the FIF-232c
>CAT cable. I'm sure that there is someone out there that has built a
>similiar type cable. Please reply via e-mail also.

Here is a circuit that we used at the local PRBBS for auto-QSY when we had an FT-747GX. Be warned: it is *crude*. It doesn't 'listen' to the radio and it has no provision to avoid sending a command if the radio is not 'ready'. OTOH it worked, I was able to build it into the DB25 computer connector, and it was dirt cheap. If your application is something like auto-QSY of a BBS for forwarding, give it a try. If you need a full-service CAT function, better stick with the FIF-232C or equivalent:

```
47 j
10 Kj |/ -----/\/\/\----- -------> FT-747GX
>----/\/\/\------ --- ------| Si NPN | CAT input
DB25-2 | | |\>-- ___ (+5v/680j)
TXD ___ ___ | .01 ufd ___
Si ^ ___ .01 ufd ___ |
| | /// |
| | ___
___ ___ ///
/// ///
```

The diode and transistor can be whatever you have in your junk box - not critical.

Hope this helps - have fun and 73 -

de Mike (TA2ZG/W2AV) Remote Sysop TA2EM BBS - first PRBBS in Turkiye
Amateur Packet Radio: TA2ZG@TA2EM.#IST.TUR.EU
Internet (email only): Michael C. McHugh <MichaelM@doruk.com.tr>

665. Re: Help needed repairing eddystone SW rig.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DLqxz4.LFH@hpqmoea.sqf.hp.com>
Source record: 107786

Paul Egan (ai657@freenet.toronto.on.ca) wrote:

: I need some help repairing an Eddystone EC-10 SW rig.
: I have the manual and have tested the transistors using the
: figures in the "Voltage Analysis" section.
: All seemed close to the values quoted except TR4 & TR5 (IF Amp).
: TR4 should be 0.87v (E) 1.15(B) 5.6(C) but is 0.36(E) .64(B) 1.71(C)
: TR5 should be 0.40v (E) 0.70(B) 7.5(C) but is 0.05(E) .28(B) 0.28(C)

Without a manual in front of a reader, this won't help much.

I've fixed several EC10's though the last was some years ago. They're twee enough to want to fix, but not particularly good performers, though.

What I found were loads of dead transistors. I suspect most of the OC170 OC171 devices have an age related silent failure mechanism. The AF115 or was it AF117 was notorious.

A bit of artful recalculation of bias resistors and fitment of some fairly docile modern silicon devices ought to be possible.

Reliability of resistors and larger values of capacitors of that period was a bit poor, too. A rebuild may make more sense than a repair.

Cheers
David

666. McGreevy BBB-4 VLF/ELF -whistler- receiver schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: spmcgrvy@ix.netcom.com
Message-ID: <4e8bet$rfp@ixnews3.ix.netcom.com>
Source record: 107787

REPOST NOTE!: Capacitor values for C4 and C5 have been corrected! They were
incorrectly 0.047 uF (47 nF), BUT SHOULD BE: 0.0047 uF (4.7 nF).

Many thanks to Gerhard Kircher in Austria (gk@gkws.edvz.tuwien.ac.at)
for pointing out these incorrect cap. values!

There was a related 3-part article to this posting, entitled VLF STORY.
originally posted to rec.radio.shortwave 59300-59302 in August 1995.

(Re-post note: By this time, those have been archived and are
no longer currently available on the rec.radio.shortwave
USENET group for reading. Please e-mail me if you desire the text of
this article, and I'll send it along to you.

Also, note the WWW URL for sound files (.wav) of Natural VLF phenomena

http://www-pw.physics.uiowa.edu/mcgreevy/

This URL will be repeated at the end of this posting.

Use a fixed/mono-width font such as courier 10 cpi or "line Printer"
if viewing in graphical editor/word-processor,
or use Windows Notepad or a DOS text editor such as edit.com.

Thanks to everyone's nice comments! Due to many requests, here is
the schematic to the McGreevy BBB-4 ELF/VLF "whistler" receiver:

REVISED 15 DEC. 1995, WITH LINE-NUMBERS INSERTED IN SCHEMATIC AREA
AND ALSO DUE TO A PART BEING LEFT OUT & INCORRECT PART VALUES (C4, C5)!

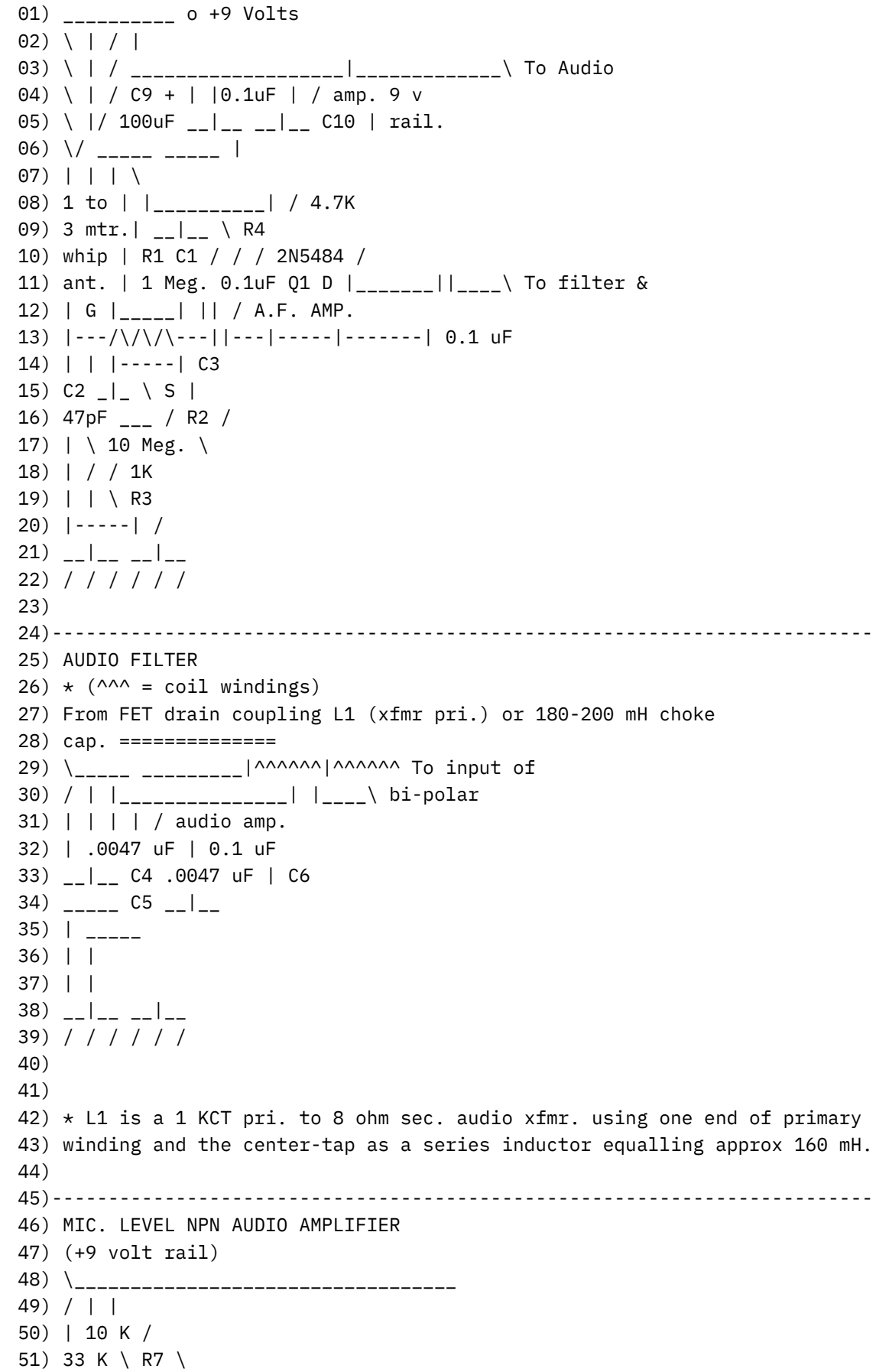
S. P. McGreevy BBB-4 Naturally-Occurring V.L.F. Phenomena E-field
Receiver ("Whistler Receiver") For Broadband 0.2 to 11 kHz Reception
of naturally-occurring radio phenomena.

(Originally copyright 1993 S. P. McGreevy). spmcgrvy@ix.netcom.com

Snail: Steve McGreevy, 45 Elda Drive, San Rafael, CA 94903-3723, U.S.A.

REVISED ASCII SCHEMATIC OF McGREEVY BBB-4 ELF/VLF RECEIVER w/LINE #'S:
(Sorry about the ascii text "graphics" -- I'm not too good
at doing schematics using text characters, but I wanted this to
be fully compatible with the text-only nature of USENET, etc.

NOTE: I've added line numbers to aid with "fixing" any scrambled lines:
These numbers are at the BEGINNING of each line in schematic (01 to 72).

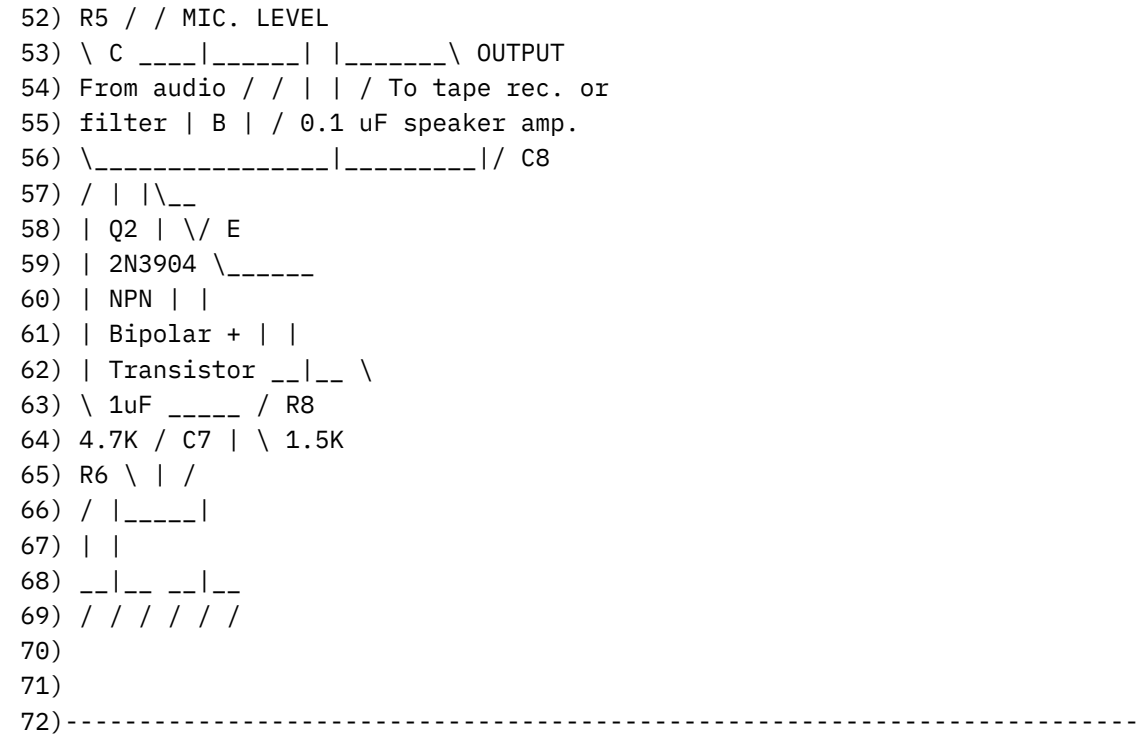

_____ o +9 Volts
\ | / |
\ | / _____|_____\ To Audio
\ | / C9 + | |0.1uF | / amp. 9 v
\ |/ 100uF __|__ __|__ C10 | rail.
\/ _____ _____ |
| | | \
1 to | |_____| / 4.7K
3 mtr.| __|__ \ R4
whip | R1 C1 / / / 2N5484 /
ant. | 1 Meg. 0.1uF Q1 D |_____||____\ To filter &
| G |_____| || / A.F. AMP.
|---/\/\/\---||---|-----|-------| 0.1 uF
| | |-----| C3
C2 _|_ \ S |
47pF ___ / R2 /
| \ 10 Meg. \
| / / 1K
| | \ R3
|-----| /
__|__ __|__
/ / / / / /

AUDIO FILTER

* (^^^ = coil windings)

* L1 is a 1 KCT pri. to 8 ohm sec. audio xfmr. using one end of primary winding and the center-tap as a series inductor equalling approx 160 mH.

MIC. LEVEL NPN AUDIO AMPLIFIER


R5 / / MIC. LEVEL
\ C ____|______| |_______\ OUTPUT
From audio / / | | / To tape rec. or
filter | B | / 0.1 uF speaker amp.
_____________|_________|/ C8
/ | |__
| Q2 | \/ E
| 2N3904 ______
| NPN | |
| Bipolar + | |
| Transistor __|__ \
\ 1uF _____ / R8
4.7K / C7 | \ 1.5K
R6 \ | /
/ |_____|
| |
__|__ __|__
/ / / / / /

The "BBB-4" is a broadband 0.2 to 11 kHz V.L.F. receiver with a passband peak at approximately 2 kHz, and is designed to receive naturally-occurring V.L.F. phenomena (such as "whistlers") that occur as electromagnetic (radio) waves at audio-frequencies. This receiver was designed to be hand-held, and its output patched to a microphone-level input such as a tape-recorder or speaker-amplifier (such as the one available at Radio Shack ("Mini Audio Amplifier/Speaker" cat. # 277-1008).

Dissatisfied with more complicated and cumbersome multi-turn loop receiver schemes, I opted to design a whistler receiver which was simple to build and use, but was as sensitive and low-noise as possible while being highly-immune to broadcast station overload.

The BBB-4 V.L.F. receiver circuit ("BBB-4" standing for a fourth version of my "Bare-Bones-Basic" designs) is remarkably sensitive and works very well with short whip antennas between 30-60 inches in length, since it operates on the same principle as high-impedance "active antennas" designed for other frequency ranges (such as long, medium or shortwaves). The BBB-4, due to its F.E.T. "front-end" being a high-performance J-FET, has an input impedance of about 10 megohms, which is why the short whip antenna--more correctly called an "electrical-field probe"--works fantastically for being such a tiny fraction of the received-frequencies' wavelengths in size (the ultimate isotropic antenna).

R1 and C2 act as a roll-off to frequencies above about 20 kHz, efficiently eliminating potential receiver overload/intermod from Loran-C (100 kHz), strong AM-BCB signals or SWBC signals, and frequencies up into the VHF ranges. R2 sets the gate impedance for the J-FET. R4 and R3 set the optimum bias on the FET for maximum dynamic range and minimum

susceptibility to overload and intermod. C3 and C6 slightly helps roll-off low-frequencies such as powerline "hum." The "pi-filter" consisting of C4, L1 and C5 roll-off frequencies beginning at about 7 kHz, so there are not excessive levels of 10.2 - 13.6 kHz "Omega" signals or higher frequency signals, which can create problems with the recording system connected to the output of the receiver. R5 to R8 , Q2 and C7 form a fairly low-noise Class-A audio amplifier which boosts the output from Q1 to a level plenty for all microphone-level recorder inputs and even some more "sensitive" line-level inputs. Bypassing R3 (1K) with a 2.2 uF cap will boost FET gain somewhat, esp. the higher frequencies--depending on your location and listening conditions, this may or may not be desireable.

The circuit can be built on perfboard such as IC-LSI boards or even wired point-to-point, as layout is not very critical. However, the parts' values ARE critical for optimum passband shape and sensitivity. L1, the inductor, can either be a 160-200 mH choke or the Radio-Shack 1K to 8 ohm audio transformer available at Radio-Shack (cat. # 273-1380). Use the black and green or black and blue wires (the center-tap and one end of the primary winding). The audio transformer was used since it is easily available at Radio Shack stores. In fact, ALL the parts with the exception of the 2N5484 FET are available at Radio Shack. Very good performance (but slightly reduced gain) can also be had if a 2N3819 J-FET, available at Radio Shack, is used. If so, R3 must be 220 ohm and R4 must be 1K, because the 2N3819 needs different biasing than the 2N5484. Also, if you use the Radio Shack 2N3819 FET, you might wish to reduce C4 and C5 to .0033 mF, since there will be less high audio-frequency output from the 2N3819. Keep C4 and C5 0047 mF if you live within a few hundred miles/km any Omega Navigation Station (Omega transmitters frequency-step from 10.2 to 13.6 kHz) .

Capacitors C4 and C5 work with L1 to reduce Omega to tolerable levels.

Solder the J-FET into the circuit LAST, and take measures to protect the FET from static electricity.

The total cost for parts (not including an enclosure) for the BBB-4 are in the neighborhood of $15-20 U.S. A rugged telescoping-whip antenna is the GROVE ENTERPRISES "ANT-8" 7-46-inch telescoping whip with a BNC connector. This is available for $16.95 from Grove Enterprises, P.O. Box 98, Brasstown, NC 28902-0098, U.S.A. (Order Line 1 (800) 438-8155. They send out a free catalog.

Another telescoping whip antenna of like design is available from C. CRANE RADIO CO. in Fortuna, CA in Fortuna, California (800) 522-TUNE (522-8863). E-field-probe receivers of this type need to be operated at locations away from trees, buildings, or other obstacles by about 100 feet/30 meters. This is because received signal levels (due to E-field attenuation) will be poor if the receiver is operated too near (or under) such obstructions.

The greatest nemesis to monitoring and recording naturally occurring VLF phenomena are electric a.c. powerlines, which emit annoying hum at 50/60 Hertz and also harmonics beyond 3 kHz. The only cure for this "hum"

problem it to locate monitoring sites well away from a.c. powerlines. Locations at least 1/2 mile/1 km or so away from a.c. powerlines will begin to be acceptable, though the farther you can get from powerlines, the better.

Hilly or mountainous terrain (with open areas free of trees) offer larger areas away from powerlines, though large fields and meadows where the powerlines are shielded by trees, etc. may be surprisingly hum-free. Remote locations such as deep into desert and wilderness regions offer the most rewarding locations, both aesthetically and electrically, to listen, and you may be able to get over 10 miles from the nearest powerline. If so, you can make the receiver's antenna several meters in length (keeping it vertical) for maximum sensitivity. Longer vertical antennas or horizontal wires may either overload the receiver, or in the case of long/low wires, will create a mismatch which will actually reduce output. Experiment here.

NOTE: A 100 mH choke across C5 (th secone .47 cap in the audio filter will greatly reduce the below 1 kHz frequencies, including pesky power-line hum. This may enable you to listen far closer to AC power-lines including even some backyard locations!

Grounding is non-critical. High-impedance FET receivers of this type need only minimal grounding to work well_even just the body of the listener holding the metal enclosure of the receiver will be adequate in most cases. If recording, it is best to stick a 8-10 inch ground rod into the soil to reduce the possibility of feedback with some tape recorders. Also, a small ground-rod (8-10 inches long) will cut noise from body or foot movements (due to capacitive interaction with the ground). If you ground the receiver to objects such as fences, beware that certain grounds may couple a.c. powerline noise to the receiver, which is why I recommend a simple Earth ground.

Better quality tape recorders, with adjustable input level controls, are desirable, as "cheapie" portable recorders with auto-level control will often have annoying variations in record level due to lightning-sferics. And, these cheap recorders also put noise of their own onto the tape. A shielded 600 ohm patch-cord will suffice between the output of the BBB-4 and microphone input of a tape recorder.

The most common naturally occurring V.L.F. emissions to be heard are the myriad "crackling and popping" sounds of lightning-stroke electromagnetic impulses from lightning storms within a couple thousand-mile radius of the listener. Since there are nearly 100 lightning storms in progress anywhere on the Earth at any given time, and that millions of lightning strokes happen daily, there is never a moment when these lightning "sferics" will not be heard. However, the density and strength of lightning sferics can vary day-to-day and hour-to-hour. Mid-winter offers the lowest density of sferics, and summer evenings can be full of a dense barrage of strong sferics.

The other most common (and most awesome) sounds are "whistlers"_eerie descending tones caused when the lightning electromagnetic energy gets "ducted" along Earth's magnetic lines-of-force (magnetosphere) to the opposite polar hemisphere, then gets rebounded back to the vicinity of the

originating lightning stroke impulse. However, there doesn't have to be lightning within sight or even a few hundred miles of your listening location_lightning from storms up to thousands of miles away, particularly if more to the north of your location, can generate large whistlers which are heard continent-wide. On the other hand, it's quite spectacular to watch distant lightning storms generate whistlers in the receiver's output_you hear the huge "crack" of the lightning impulse sferic, then, if the conditions to support whistlers are occurring, a whistler may follow from 1 to 2 seconds after the lightning stroke.

Optimum times to listen for natural V.L.F. phenomena, such as whistlers, are between sunset and sunrise, with the midnight to sunrise period generally being the best. Statistically, the greatest activity to be heard is around dawn and sunrise (4-7 a.m. local time)_sferics tend to be fairly low as compared to the sunset period.

Dawn Chorus can occur during magnetic-storms, and will peak anywhere from an hour before sunrise to 2 hours past sunrise. Whistlers can occur at anytime, but the period of minimum frequency is midday. Sometimes, activity can also occur just after sunset, but sferics will be fiercer. Lightning sferics will be most fierce during summer afternoons and minimum (generally) an hour or so after sunrise until thunderstorm activity picks up later on. Winter can present delightfully low lightning sferics_other activity will be more "in the clear."

Tweeks, the "ringing/pinging" sounds of sferics caused by the Earth-surface/ionosphere "waveguide," will be best from an hour after sunset to 2-3 a.m. local time, gradually tapering off toward sunrise. Their number and intensity of "pinginess" can vary from night to night_some nights they can sound rather "pale," but other nights they can ring in a variety of beautiful mixtures and pitches. Whistlers, which may or may not be heard on some days or even weeks, can range in sound from quite pure notes to very diffuse "breathy" sounds. They can swoop in frequency from very high to low, or abruptly cut-off as they descend in pitch.

Don't be discouraged if you listen for several hours, or several sessions on different days, without hearing whistlers or other natural radio phenomena. When you DO hear them, it will make up for the "dry" times, as there is nothing like "live" listening!

Listeners located north between 40-55 degrees north or south latitude are in the optimum latitudes for monitoring natural V.L.F. phenomena. If you can see visible Aurora (Northern/Southern Lights) from your location, you are at a great location for natural V.L.F phenomena monitoring! Latitudes between 20-30 degrees north and south will hear less, but at times, still loud phenomena. I've heard whistlers just fine in Hawaii_presumably those whistlers were louder farther north, but still, they were heard!

DO NOT operate this receiver (or any other) when nearby lightning threatens! Take appropriate lightning precautions when lightning is occurring nearby (within 5-10 miles). Nearby lightning will cause excessively loud sferics in the receiver's output, and whistlers will not be

louder just because lightning is close-by. Reserve listening for fair weather periods_most often, the best and loudest natural V.L.F. phenomena will happen during clear weather, since lightning can be quite distant, as mentioned above, and still spawn loud whistlers.

If you would like to purchase a ready-made receiver which is fashioned like a "Walkman-style" whistler receiver, e-mail me for details. I don't want to "advertise" here.

The Longwave Club of America also has other designs of ELF/VLF "whistler" receivers, and has a BBS run by member John Davis. The LWCA BBS is at (706) 672-0360 with speeds up to 9600 (8,N,1). Download the ALLFILES.TXT or ALLFILES.ZIP for listing of files avail on this BBS.

A WWW URL of natural radio WAV files (most 8 bit/11 kHz sampling compatible with Windows "speaker.drv" as well as 8-bit sound cards, plus a few 16-bit files for 16-bit sound cards are available for downloading at:

http://www-pw.physics.uiowa.edu/mcgreevy/

Special thanks to Larry Granroth a the U. of Iowa for doing this for me!

Coordinated monitoring of naturally occurring V.L.F. phenomena among individuals and groups has a strong potential to uncover new and previously unknown characteristics of these phenomena, particularly if those monitoring simultaneously are located hundreds and thousands of miles apart. Research and understanding of V.L.F. phenomena has been hindered by a lack of listeners, which is something a few research groups, both amateur and professional, are attempting to alleviate.

I hope you enjoy this receiver and are interested in monitoring and studying naturally occurring VLF radio phenomena for yourself. It is quite fascinating, especially when one ponders the fact that Earth's natural radio emissions have been "sounding-off" way before we Humans came into existence and started making radio waves of our own! Happy Listening!

Stephen P. McGreevy
Originally released November 1993, updated November 1995, January 1996 with thanks to many rec.radio.shortwave readers!!!

Additional Tips:

1) A 100-200 mH inductor connected across C5 the will act as a high-pass filter, nicely attenuating 60-360 Hz powerline emissions (hum).

2) If you want less gain from the Q2 stage (and slightly lower noise), reduce R8
to 4.7K.

3) Listen to WWV-shortwave (2.5, 5, 10, 15, 20 MHz) for geo-magnetic indices at 18 min. past each hour (WWVH-Hawaii at :45). A K-index at or above 3 indicates enhanced conditions for natural phenomena,
especially chorus.

4) the U.S. NOAA/USAF runs a fantastic Gopher URL with geomagnetic indices
and other information available at:

gopher://proton.sel.noaa.gov:70/11/forecasts/SGAS

Lists the past 30+ days' geomagnetic conditions, proton and electron fluences,
and so forth.

There is a rough correlation between high electron fluences and whistlers--
look for fluences at 1.0E + 07 or higher. Periods when the solar fulx is
rising also seem to be times when whistlers occur more often.

If you type in the URL without the "SGAS," you will get to the main menu.

73,

Stephen P. McGreevy, N6NKS

667. Re: I found some old vacuum tubes ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: solasaar@cc.Helsinki.FI
Message-ID: <4e86g3$86s@oravannahka.Helsinki.FI>
Source record: 107788
Cross-posted to:
sci.electronics.equipment,sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Mike Mackaplow (mike@chemeng.Stanford.EDU) wrote:
> While helping clear my mom's garage, I found some
> vacuum tubes:

Magnavox 12BA6 pentode (rf/if amplifier), 12 V filament
Magnavox 12BE6 heptode (frequency changer)
Magnavox 12AV6 double diode, triode (detector, first
af stage)
RCA Electron Tube 35C5 output pentode, 35 V filament (approx.)
Sentinel 12BE6
TEN 12BE6
General Electric MA? ?
?? 12BA6
?? 12AV6
?? 35 W4 (2) ? Just now I can't find this type.

The nominal heater voltage for 12xxx types is 12.6 volts.

> Is there a simple way to tell if the tubes are good ? How

I think there is not. Filaments (heaters) can be checked with an ohm-
meter (and possible shorts between electrodes).
Were the tubes in their carton boxes or loose?
Tubes without boxes are probably used - some of them can be good still.
A tube tester would tell something, but it is hard to find one nowadays.
(And even harder to find a person who knows how to use it.)

> would I find out if they have any value ? How would one go about
> or, more likely, donating them ?

> Thanks,

> Mike Mackaplow
> mike@chemeng.stanford.edu

> P.S. - I am in the southern San Francisco Bay area

I am in southern Finland.

Regards,
Juha Solasaari

668. RG63/B COAX - OHMS=?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: mai@iquest.net
Message-ID: <DLqxwM.3Gs@iquest.net>
Source record: 107789

Seeking a little help on tech spec's of this stuff. Have checked all handbooks, major manufacturer's catalogs back thru the 60's, can't find it! This is TIMES brand, but not in their catalog either. If you can shed some light I'd really appreciate it!

73
Patrick WB9IQI

669. Relays That Hum

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: "Jim Sutton/AC4CZ"
Message-ID: <4e8l4g$qc@zippy.cais.net>
Source record: 107790

I have several 115 ac relays that at times produce an objectional hum. The coil wire looks like #28 to perhaps #32 and the dc resistance varies from 75 to 85 ohms. Any thoughts on the voltage/current likely to required to operate on dc?

Thanks for your help.

73/Jim Sutton/AC4CZ
jsutton@erols.com

670. Re: Test Posting

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: jsutton@erols.com
Message-ID: <4e8kkj$n0@zippy.cais.net>
Source record: 107791

> jsutton@erols.com writes:
> This is a test posting.
> Jim/AC4CZ
>
>>>>
Follow up to msg.
JCS/AC4CZ

671. Re: Lowfer help.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: Robert Schneider <robert.schneider@rz.uni-wuppertal.de>
Message-ID: <31076890.167E@rz.uni-wuppertal.de>
Source record: 107792

Try ftp://ftp.uni-wuppertal.de/pub/lowfer
--
Robert Schneider 0202/4392244
schneide@wrds1.urz.uni-wuppertal.de

672. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: cj@algonet.se
Message-ID: <4e8mdc$eoh@prometheus.algonet.se>
Source record: 107793
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
New Contribution [ ] Update [ ]
-----------------------------------------------------------------------------

Title :
Author: Date:
```

```
E-mail: (optional)
---------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
---------------------------------------------------------------------
Description : (5-50 rows describing your application)

=====================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - * email: cj@algonet.se *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web - http://www.algonet.se/~cj/catalog.html <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

673. Re: varator diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: smaas@aol.com
Message-ID: <4e99v3$pcq@newsbf02.news.aol.com>
Source record: 107794

In article <9601221149.AA09737@eagle.rtc-waterford.ie>,
daly@eagle.rtc-waterford.IE says...
>
>Does anyone have a source of varator diodes.
>I want to build tripler to 23cm, but cannot find definite source for
>varator diodes. (BAY66???) any info would be appreciated!
>Thanks in advance.
>
>Warren EI6ETB

Why mess with varactors? They're a pain in the tush. Hard to get them working, and prone to weird oscillations. Build a bipolar tripler; lots of good devices at 1 GHz. Also, even better to start lower in frequency, if possible, and use two doublers.

Steve
W5VHJ

674. Re: I found some old vacuum tubes ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: smaas@aol.com
Message-ID: <4e9a15$pcs@newsbf02.news.aol.com>
Source record: 107795
Cross-posted to:
sci.electronics.equipment,sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Mike Mackaplow (mike@chemeng.Stanford.EDU) wrote:
> While helping clear my mom's garage, I found some
> vacuum tubes:

Magnavox 12BA6 pentode (rf/if amplifier), 12 V filament
Magnavox 12BE6 heptode (frequency changer)
Magnavox 12AV6 double diode, triode (detector, first
af stage)
RCA Electron Tube 35C5 output pentode, 35 V filament (approx.)
Sentinel 12BE6
TEN 12BE6
General Electric MA? ?
?? 12BA6
?? 12AV6
?? 35 W4 (2)

These are pretty common old tubes. Many are used in the classical "All American five" five-tube radio chassis. They're available from a few sources these days, mostly made in Easter Europe. Not worth squat. Sorry.

Steve

675. Re: dummy load?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4e8a0g$er6@news.calweb.com>
Source record: 107796

If ypu need to go to higher frequencies than 50 MHz then get as much
RG58 as you can (50 to 100 feet) and use it as an attenuator with
the dummy load as described by Jim W9GXC.
Bill K7NOM

676. Re: WANTED: 72 ohm twinlead

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4e8l94$ib3@maureen.teleport.com>
Source record: 107797

; dmiller@crl.com (Donald J. Miller) writes:
; Gary Stone (garystone@texoma.com) wrote:

; : My brother-n-law (KI7XQ) is looking for about 3 feet of 72 ohm twinlead
; : for a balun on an antenna project. I know very little of the project,
; : but he does not have internet and I wanted to try and locate a source for
; : him.

; You can't realize this transmission line with twinlead construction.
; For an impedance that low, the diameter of the conductors is greater
; than the spacing:

; s = center to center spacing
; d = wire diameter

; Zo = 276 LOG(2s/d)

The formula you quote is an approximation, which falls apart with close spacing/large conductors, as you found. The correct formula is

Zo = 120 cosh^-1 (s/d)

where cosh^-1 is arc hyperbolic cosine.

This is for air dielectric. The presence of other material between the conductors will lower the impedance.

72 ohm twinlead used to be common stuff, in two sizes, "receiving" and "transmitting". I've got a bit of the transmitting stuff in my junk box, but it's too large and stiff for practical use in a balun. In this day and age, I'd use twisted pair with thinnish insulation. Unless it's being used at a frequency where 3 feet is an appreciable fraction of a wavelength, the Zo of the line probably won't be very important.

Roy Lewallen, W7EL

677. FS: HV P..S. Diodes.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: Spencer Petri <spetri@e-tex.com>
Message-ID: <4e772c$1nl@saratoga.compassnet.com>
Source record: 107798

These diodes are great for that big amp supply. 20KV and I did a test at 1.2 Amps for 6 hours, these babies can take it. $10 each or build a bridge at 4 for $35 and $3 for priority mail.

73 de Pete WA5JCI EM-21

678. Cuban-German Geneological Club

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: d018667c@dcfreenet.seflin.lib.fl.us
Message-ID: <4e6i1r$r8f@bcfreenet.seflin.lib.fl.us>
Source record: 107799

Old school Pc 4 sale;
I got an commodore 64 pc w/2 drives modem and printer. Was great for Packet.
Locals only. thanks :>

--

Ricardo Buch
d018667c@dcfreenet.seflin.lib.fl.us

679. WTB: 9-pin plugs for EFJ

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: Cal Eustaquio <ceustaqu@farad.elee.calpoly.edu>
Message-ID: <Pine.ULT.3.91.960125163940.28124A-100000@farad.elee.calpoly.edu>
Source record: 107800

Who still carries these? I would like to buy some for replacing some broken one on my Ranger/Invader/Valiant. I appreciate any assistance on this. 73's. Cal.

680. Re: RG63/B COAX - OHMS=?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: "John R. Moore" <jrmoore@jaxnet.com>
Message-ID: <310834C9.60C1@jaxnet.com>
Source record: 107801

Patrick Croft wrote:
>
> Seeking a little help on tech spec's of this stuff. Have checked all handbooks,
> major manufacturer's catalogs back thru the 60's, can't find it! This is TIMES brand,
> but not in their catalog either. If you can shed some light I'd really appreciate it!
>
> 73
> Patrick WB9IQIPatrick
according to my book RG-63B impedance is 125 ohms Capacitance is
10 pf/ft 6.4 db loss per 100 ft at 1000 mhz.
John W5HUQ

681. I found some old vacuum tubes ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: mike@chemeng.Stanford.EDU
Message-ID: <4e723n$8i2@nntp.Stanford.EDU>
Source record: 107802
Cross-posted to: sci.electronics.equipment,sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

While helping clear my mom's garage, I found some
vacuum tubes:

Magnavox 12BA6
Magnavox 12BE6
Magnavox 12AV6
RCA Electron Tube 35C5
Sentinel 12BE6
TEN 12BE6
General Electric MA?
?? 12BA6
?? 12AV6
?? 35 W4 (2)

Is there a simple way to tell if the tubes are good ? How
would I find out if they have any value ? How would one go about
or, more likely, donating them ?

Thanks,

Mike Mackaplow
mike@chemeng.stanford.edu

P.S. - I am in the southern San Francisco Bay area

682. PWI/MobileFAX Model 1010 Syn sweep/func gen ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: chrise@n0jcf.com
Message-ID: <4e8rsd$4gs@n0jcf.com>
Source record: 107803
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Does anyone have any experience with and comments on a 12 MHz
synthesized sweep/function generator offered by a company
called PWI/MobileFax in Carson City NV ?

It's advertised in Nuts&Volts (page 137 of January '96 issue).

I'm looking for a new function generator for the bench and
this one appears to have some interesting capabilities...

$400 price range...

Thanks.

Chris
--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

683. Re: I found some old vacuum tubes ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: sam@stdavids.picker.com
Message-ID: <SAM.96Jan25182237@colossus.stdavids.picker.com>
Source record: 107804
Cross-posted to:
sci.electronics.equipment,sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

In article <4e86g3$86s@oravannahka.Helsinki.FI> solasaar@cc.Helsinki.FI (Juha Solasaari) writes:

<snip>

> Magnavox 12BA6 pentode (rf/if amplifier), 12 V filament
> Magnavox 12BE6 heptode (frequency changer)
> Magnavox 12AV6 double diode, triode (detector, first
> af stage)
> RCA Electron Tube 35C5 output pentode, 35 V filament (approx.)
> Sentinel 12BE6
> TEN 12BE6
> General Electric MA? ?
> ?? 12BA6
> ?? 12AV6
> ?? 35 W4 (2) ? Just now I can't find this type.

> The nominal heater voltage for 12xxx types is 12.6 volts.

> > Is there a simple way to tell if the tubes are good ?

Not really but the two tests below will find most bad tubes. It will not pick up weak tubes but even then a repair shop replaced tubes, perhaps 20 % of the tubes they replaced were actually bad (I know because the local TV repair shop's trash can was a favorite hangout on trash day and nearly all the tubes I scrounged tested good on a real tube tester!)

1. Use an ohmmeter to test for filament continuity. The nice thing about tubes (aside from their cheery glow) is that you can see inside - you can locate the filametn by tracing from the pins - it will be the whitish fine wire in the center of each of the sections. Or, it is almost always pins 3,4 on a 7 pin tube and 4,5 on a 9 pin tube.

2. Look for a silvery metal spot inside the tube. If you see this, the vacuum is intact. If it is milky white or red, the tube has lost its vacuum.

These are all very common tube types. Even today, they sell for less than $10 new. Years ago they were around $1-2.

--- sam

684. Re: QST Antenna Tuner Kit-First Impressions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8226238376603@lss.humnet.humberc.on.ca>
Source record: 107805

> In article <4csf5c$b0o@newsbf02.news.aol.com>, w8jitom@aol.com says...
> >
> >In article <1996Jan6.185503.8669@ohstpy>,
> >garland@ohstpy.mps.ohio-state.edu (JIM GARLAND) writes:
> >
> >>My only quibble with the kit is the printed circuit board. The board
> >>itself is of high quality. It is double-sided, with thru-plated holes,
> >>green solder-masking, and silk-screened component outlines shown in
> >>white. My concern about the board is that the large majority of the
> >>traces seem to be extremely thin. I couldn't measure them, but I'd
> >>guess a maximum width of 10 mil, and probably less, perhaps even
> >>6-7 mil. (all the relay control lines are wired this way.) Further,
> >>the pad sizes seem too small relative to the holes in the pad. I'm not
> >>an expert at PCB layout, but I'd think that a pad should have a minimum
> >>of 10-15mil of metal around each hole.
> >>The majority of holes on the board have significantly less metal than
> >this. In fact, a majority of the holes were drilled slightly off-center
> >>in the pads, so that there is no metal at all on one side of the hole!
> >>

> >
> >Hi Jim, This sounds like the boards I get from out of house layout shops
> >that never work with RF. That's too bad. Maybe you could point that out to
> >the kit supplier, because your observations illustrate a big problem.
> >Somewhere I heard the rhyme short and thick does the trick. I assume that
> >meant RF traces.
> >
> >73 Tom

>
> I hope I am happy when mine arrives. As for the short and thick, that depends
> on the signal in RF. Some microwave circuits depend on "controlled" length an
> thickness, though better called width here, since thick is the depth of the
> copper clad. In my designs (I design electronics for a few paying customers),
> width is important in power supply to reduce I-R losses, as well as some key
> analog traces.
>
> I will post as soon as I finish building my tuner to let others know what I
> think of it.
>
> Douglas L. Datwyler WR7O
> datwyler@aros.net
>

The mentioned "thin" traces on the board are for logic control and
not RF (a typical width for digital circuitry). The RF lines, you will
note are much thicker.
My concern was that a groundplane was not utilized, instead...the
unused copper was etched away. I would have kept the copper on any
unused areas on either side of the board with lots of plated thru holes
to help shield the digital control lines from the RF.

Regards...Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

685. Re: Toroid permeability ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8226238456204@lss.humnet.humberc.on.ca>
Source record: 107806

> >....but some surplus stores in Toronto have a wide
> >assortment of bins of unmarked toroids. It would be a nice
> >cost-effective altenative to having to order new ones if we knew what we
> >had sitting at our doorstep.
>
> May be I am wrong, But I expect that 99% of surplus toroids
> are intended for frequencies below 1 MHz (switch mode PSU's?)
>
> 73, Moritz DL5UH
>

I suspect that most of them are ferrite cores for noise suppression
use however there are several bins at the surplus store with
wound cores that look more like RF transformers.
Nevertheless, I get the feeling that it is not worth the effort
to try and salvage a small assortment of RF capable iron cores.
Just a passing thought though !

Regards... Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

686. Re: Need Toshiba S-AV17 amp module source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8226238295302@lss.humnet.humberc.on.ca>
Source record: 107807

> Cant seem to find this module anywhere. Digi-Key or Mouser does not have
> it.
> This is for building the 2M brick in the 1996 Handbook.
> Toshiba S-AV17 amp module.
> Any help in getting a source as well as hints on building the brick would
> be greatly appreciated.
> --
> Elmar Vaher ********----------**********
> ekv@panix.com

RF Parts in California sells these modules.
Look em up in a recent 73, CQ or QST ad.

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

687. Need Antenna Design Program

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: beard@acca.nmsu.edu
Message-ID: <4e8v4f$jhn@bubba.NMSU.Edu>
Source record: 107808

I know of one antenna modeling program called "YagiMatch"
Are there others out here?
If there are how to I get the freeware or shareware versions?

Thanks for any help you can give me.

WA4QGA
David Beard
El Paso, Texas

688. FS: HV supply diodes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: Spencer Petri <spetri@e-tex.com>
Message-ID: <4e6nvg$4b4@saratoga.compassnet.com>
Source record: 107871

Great diodes for your big amp supply. These are 20,000 V and I ran a check at 1.2A for 6 hours, these babies can take it. $10 each or build a bridge at 4 for $35. $3 for priority mail.

73 de Pete WA5JCI EM-21

689. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4e6n93$e3b@cc.iu.net>
Source record: 107872

In article <4e3aml$k8e@missun.cus.cul.ca>, VillyM@cus.cul.ca says...
>
>In <DLL8A4.IA8@ncifcrf.gov>, mack@ncifcrf.gov (Joe Mack) writes:
>>I did this when I was a kid, tuning in hams on a SW receiver
>>before I got my ham license. You don't need a crystal oscillator,
>>any oscillator will do and I just draped a wire from the oscillator
>>into the back of the box of the radio - no solid connection.
>>
>>
>I did it by adding regeneration to the last iF stage, and then advancing the
gain until
>it just started to oscillate. Worked, and even dramatically increased the
selectivity...
>
>
>
>
>Villy VE6SQ

Sounds like my Heathkit Q Multiplier from 1967. Remember those?

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

690. Re: VCO power supply noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-25 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4e6o37$e3b@cc.iu.net>
Source record: 107873

In article <n7ws.42.00217815@azstarnet.com>, n7ws@azstarnet.com says...
>
snip out third party....
>
>My fears involve long term effects such as problems with moisture and plastic
>packaged ICs. This isn't exactly my area of expertise, however, in my
>department, we have materials people, chemists, and other components engineers
>that share my concern. I realize that some environments, particularly
>automotive, have conditions that may be worse than mil spec requirements.
>However, if you store your car for ten years in a bunker then ship it to Saudi
>Arabia and store it for a while at 140 degrees F and then ship it to Alaska
>and store it there for a while then take it out and try to start it with
>the first turn of the key, what happens? You probably will have six sigma
>(latest buzz word) repeatability; it fails 999,997 times out of 1,000,000.

Automotive is bad, but offshore oil rigs may be the worst, according to
something I read.

>
>On a not too related subject, but one brought on by a not to well thought out
>edict:
>
>We have also been forced to eliminate the use of oxygen-depleting-chemicals
>(ODCs), such as the defluxing agents used to remove rosin flux. So, we use
>acid fluxes and water-based solvents. Of course, we are using surface mount
>components too. What are the long tern effects of less than perfect removal of
>the flux trapped under the components in moist environments. Your guess is as
>good as mine. But this is progress :-)

Personally, I think the obsession with removing rosin flux is cosmetic. My
only measurement experience with this is from over 15 years ago when I was still
a technician. Used to work for a place that made very precise measurement
equipment for computer control of all sorts of industrial stuff (everything
from making chocolate at Hershey's to reclaiming silver at Kodak). The most
sophisticated amplifier card we had, with a gain of 2048 in a system that read
down to microvolts per bit, was sensitive to contamination. Skin oils would
drive readings off, invalidate input bias current measurements, and other things.
Rosin flux was essentially inert. I saw cards come back from the field with
flux on them for years and it was never a problem.

I would guess that an activated flux might be a problem, but I've never seen
studies on it, or had experience with it.

>
>>Airbag. n. 1) An automotive accessory designed to explode on impact.
>

>ALL of our products are designed to explode on impact.

Too bad. Unless you make stuff for the construction/excavation industry.

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

691. Need VCO, 1-2 gHz - circuit or off-shelf

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: sjandrew@ozemail.com.au
Message-ID: <4ebi51$qa8@oznet11.ozemail.com.au>
Source record: 107724
Cross-posted to: aus.electronics,aus.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.components

Hi
I'm trying to obtain a VCO covering 1 - 2 gHz for use in a
spectrum analyser project. I know Minicircuits (USA)
manufacture a range of VCO modules but I am told that they
are un-available in Australia due to future production being
sold out.

If you know of an outlet for these units, or any other
types, or have a proven circuit, please let me know.

Many thanks in advance... Steve

692. WTB: Old mechanical calculators

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: phil@SANDH.COM
Message-ID: <0000265000000A7D@SANDH.COM>
Source record: 107725

I am interested in purchasing old mechanical calculators and slide rules.

I collect the old electro-mechanical "rotary" calculators that were made by Friden, Marchant, Monroe, and other manufacturers from the period of the 1900's through the late 1960's. I also collect non-electrical mechanical calculators and am especially interested in hand-held Curta brand calculators. I am not interested in adding machines that print on tape or electronic calculators.

If you have an old mechanical calculator or slide rule collecting dust in a closet, please send me an e-mail message.

Phil Sherrod (phil@sandh.com)

-- 14: usenet.rec.radio.amateur.homebrew --

693. How to expand the TX range of the Icom IC-T22

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: s3_0114@EFP.Poznan.PL
Message-ID: <Pine.A32.3.91.960126141615.100023D-100000@ITU1Lab.EFP.Poznan.PL>
Source record: 107726

Hello everybody.

I need my IC-T22 to transmit on 160MHz where paraglider pilots used to chat.
If you know how to make my Icom do it, please, write to me.
Maybe you know somebody who knows? You could make me happy giving me his address.

Thank you in advance,

Tomek

694. Swan XTAL Filter Impedance ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <4eals2$b51g@rs2.ccd.harris.com>
Source record: 107727

I found an old Swan xtal filter the other day. I'd like to play around with it in a receiver circuit. It is a 487-024 freq = 9001.65 khz. I think I came from an old Swan Astro 100 transceiver. What is the in/out impedance ? Guess I could play until I got it matched if all else fails.

Doug, N4IJ
--
Doug Snowden
dsnowden@ccd.harris.com

695. Re: I found some old vacuum tubes ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: ken@syd.dit.CSIRO.AU
Message-ID: <4eapgiINNq5o@seurat.syd.dit.csiro.au>
Source record: 107728
Cross-posted to: sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

```
|While helping clear my mom's garage, I found some
|vacuum tubes:
|
| Magnavox 12BA6
| Magnavox 12BE6
| Magnavox 12AV6
| RCA Electron Tube 35C5
| Sentinel 12BE6
| TEN 12BE6
| General Electric MA?
| ?? 12BA6
| ?? 12AV6
| ?? 35 W4 (2)
|
|Is there a simple way to tell if the tubes are good ? How
|would I find out if they have any value ? How would one go about
|or, more likely, donating them ?
```

Hah, you probably have some tubes from those AC/DC line transformerless radios. The 35C5 is a power pentode or tetrode. The 35W4 is a rectifier. The 12BE6 is a converter. The 12AV6 is a dual triode. If I remember correctly the filament current is 0.15A. They were usually wired in series to make up 100-120V worth of voltage drop which is just right for US power standard.

Just give them to a tube enthusiast. He/she will know what to do with them.

Bothers me that I actually can remember this stuff. :-)

696. Re: Need VCO, 1-2 gHz - circuit or off-shelf

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.47.0044D356@azstarnet.com>
Source record: 107729
Cross-posted to: aus.electronics,aus.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.components

In article <4ebi51$qa8@oznet11.ozemail.com.au> sjandrew@ozemail.com.au (Steve Andrew) writes:
>From: sjandrew@ozemail.com.au (Steve Andrew)
>Subject: Need VCO, 1-2 gHz - circuit or off-shelf
>Date: Fri, 26 Jan 1996 21:42:58 GMT

>Hi
>I'm trying to obtain a VCO covering 1 - 2 gHz for use in a
>spectrum analyser project. I know Minicircuits (USA)
>manufacture a range of VCO modules but I am told that they
>are un-available in Australia due to future production being
>sold out.

I doubt they're sold out, but my catalog shows their highest frequency model to be the POS-1025 which tunes from ~615 to 1050 MHz.

>If you know of an outlet for these units, or any other
>types, or have a proven circuit, please let me know.

There are other USA vendors, such as HP/Avantek and VariL, however, if you only want one or two pieces, forget them.

>Many thanks in advance... Steve

Wes -- N7WS

697. Re: NiCAD Charger Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4eb1j2$sa7$3@mhafn.production.compuserve.com>
Source record: 107730

There is also a schematic and PCB of WB0VGEs Nicad charger in CIRCAD format.
If you have Compuserve access GO HAMNET. I think it is in lib 6 (or else 22)
the Homebrew area.
--
73, Jay WB0VNE - AAV5TH

698. Re: RG63/B COAX - OHMS=?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: mai@iquest.net
Message-ID: <DLsq0x.L4v@iquest.net>
Source record: 107731

"John R. Moore" <jrmoore@jaxnet.com> wrote:
>Patrick Croft wrote:
>>
>> Seeking a little help on tech spec's of this stuff. Have checked all handbooks,
>> major manufacturer's catalogs back thru the 60's, can't find it! This is TIMES brand,
>> but not in their catalog either. If you can shed some light I'd really appreciate it!
>>
>> 73
>> Patrick WB9IQIPatrick
>according to my book RG-63B impedance is 125 ohms Capacitance is
>10 pf/ft 6.4 db loss per 100 ft at 1000 mhz.
>John W5HUQ

Thanks to all for the info - many responded. Very informed group we have here!

73 PAtrick WB9IQI

699. Looking for plans for transceiver for packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: David Negaard <draagen@connectnet.com>
Message-ID: <3109B56E.3A080BB4@connectnet.com>
Source record: 107732

I'm looking for plans for a simple (probably crystal-controlled)
transceiver that would be suitable for 9600 bps packet use. Does anyone
know where I might obtain same?

My hand-held won't cut it, of course (PM instead of true FM), and I
can't really afford to buy another radio right now.

Also, I assume that a radio suitable for 9600 bps would also function
admirably at 1200?
--
San Diego District Youth Leader
David Negaard phone: (619) 761-0280
625 Shenandoah Avenue mailto:draagen@connectnet.com
San Marcos, CA 92069 http://www3.graceland.edu/~jrmj/negaard

700. Printer Port Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: "Peter H. Anderson" <pha@access1.digex.net>
Message-ID: <Pine.SUN.3.91.960126130009.9634A-100000@access1.digex.net>
Source record: 107733

I recently completed a manual on how to use the printer port. It is intended for electrical engineering students who have completed introductory courses in circuit analysis, digital and C programming.

Peter H. Anderson, "Use of a PC Printer Port for Control and Data Acquisition", 106 pages, Jan, 96. - $7.00 including postage.

Copies may be ordered by sending a check or money order made payable to "IEEE" to;

Peter H. Anderson
Dept of Electrical Engineering
Morgan State University
Baltimore, MD 21239

The manual illustrates how to use the printer port on any PC Clone to control motors, electro- mechanical relays, stepping motors and to acquire data using both an analog to digital converter and by measuring time.

Topics include; printer port layout and programming techniques, how to interface with a breadboard, use of a junk PC power supply to power peripheral circuits, driver circuits, Darlington transistor drivers, optoisolators, grounding considerations, expanding the input and output capability, inte rfacing with 7-seg LEDs, controlling the speed of a DC motor, infrared remote control, radio frequency remote control, digital to analog conversion, analog to digital conversion, acquisition of temperature data using a thermistor, forcing an interrupt, use of an interrupt to measure temperature by measuring time, use of an interrupt to determine the gravitational constant g.

In the future, this will be expanded to include such topics as range finding using sonar, interfacing with a LCD panel, speech synthesis, use of digital and linear Hall effect devices, fluid level detection, pressure transducers and the design of sensor conditioning circuitry.

Peter H. Anderson KZ3K
Dept of EE
Morgan State University

pha@eng.morgan.edu
pha@access.digex.net

http://www.access.digex.net/~pha

701. Re: Balum Loss Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <yT64rHAO9NCxEwaU@ifwtech.demon.co.uk>
Source record: 107734

In article <4e98au$1dv6@news.gate.net>, Larry Lewis wrote:
>What is the loss (in db) of a 4:1 coax (assume 9913) balum at 144 mhz?
>or
>Where can I find the data (didn't see it in 1993 ARRL Handbook nor the
>RSGB VHF/UHF handbook)?
>or
>How to calculate the loss.
>or
>What is your guess? My guess is 0.2db???
>

0.2dB is commonly used in EME and other path loss budgets for a balun made of low-loss cable.

As well as dissipative losses in the half-wavelength of cable, this figure is usually taken to include losses due to phase errors and radiation losses in connecting to the folded dipole. In other words it is not directly measurable by methods such as connecting two identical baluns back-to-back.

I guess it's really just a "wet-finger" allowance that people make when converting from computed gain to real-world gain.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

702. Re: Need info on RG 62

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: jyazel@freenet.columbus.oh.us
Message-ID: <4ebams$ble@acme.freenet.columbus.oh.us>
Source record: 107735

Steven Fritts (sfritts@usit.net) wrote:

: Could someone tell me what the impedence of RG62 is?

: Thanks,

: Steve

93 ohms

703. Effects of temp. cycling?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8227073035401@lss.humnet.humberc.on.ca>
Source record: 107736

I've been thinking about my radio equipment in the car...
I wonder if there is any data to suggest that long term temperature cycling ie.. -20 degs. C to about +20 degs. C that occurs in the Northern climates can have detrimental effects on the lifespan of electronic components, especially electrolytic capacitors, LCD displays and any other components with liquids in them ???
With the car sitting all night in sub freezing temperatures, then the heater warming the cab of a car up to a comfortable level during the drive to work...I wonder if this stresses the electronic components ? (I'm sure it must !?!?)
I know that manufacturers do temperature cycling tests in environmental chambers on their products to be able to spec the operating and sometimes the storage temperature ranges but I'm curious to know if any longterm testing is conclusive on the MTBF of electronic products ?

I'm not doing a study...just a curious mind !

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

704. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: Peter Shintani <shintani@tv.sony.co.jp>
Message-ID: <4e9pvl$si0@oskgw.osk.sony.co.jp>
Source record: 107737

Hi:
A company called Mitsubishi Material makes an awesome surge protector.
It's fast and once it's clamping voltage is exceede it's holding
voltage drops to nearly zero. This may provide better protection than a MOV
for a radio's input and also for phone lines, and modems. The device incidentally
has less than 1 pF of capacitance so it's easier to use than a MOV. It can take
repeated hits and it's characteristics stay constant were as MOV can deteriorate.
PS

705. Re: varator diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4e98u5$5mh@cc.iu.net>
Source record: 107809

In article <9601221149.AA09737@eagle.rtc-waterford.ie>, daly@eagle.rtc-waterford.IE says...
>
>Does anyone have a source of varator diodes.
>I want to build tripler to 23cm, but cannot find definite source for
>varator diodes. (BAY66???) any info would be appreciated!
>Thanks in advance.
>
>Warren EI6ETB
>
>daly@eagle.rtc-waterford.ie
>

Don't have a source for those, but here's a thought for you.

A guy who is more clever than I am decided that all diodes have those properties, and the only difference was that varactors were specially doped to emphasize them. So he made a "varactor" tripler out of some 1N914 diodes. Worked fine, but I think he said they were a little lossier.

That was about 12 or 15 years ago, and I think it was even a commercial product, so it was repeatable.

The guy was WA4GHK.

73,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

706. Re: RG63/B COAX - OHMS=?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: dhayes@seldon.terminus.com
Message-ID: <3108270e.1429093@news>
Source record: 107810

mai@iquest.net (Patrick Croft) wrote:

>Seeking a little help on tech spec's of this stuff. Have checked all handbooks,
> major manufacturer's catalogs back thru the 60's, can't find it! This is TIMES brand,
>but not in their catalog either. If you can shed some light I'd really appreciate it!
>
>73
>Patrick WB9IQI

The 1956 edition of Reference Data for Engineers lists the following
specifications for RG63B/U coaxial cable:

Type - low capacitance single braid
Nominal impedance - 125 ohms
capacitance 10 pf/ft.
dielectric material - air spaced polyethylene
velocity .84c

707. Balum Loss Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: lslewis@gate.net
Message-ID: <4e98au$1dv6@news.gate.net>
Source record: 107811

What is the loss (in db) of a 4:1 coax (assume 9913) balum at 144 mhz?
or
Where can I find the data (didn't see it in 1993 ARRL Handbook nor the
RSGB VHF/UHF handbook)?
or
How to calculate the loss.
or
What is your guess? My guess is 0.2db???

Any guidance would be appreciated, your educated guess will also be
appreciated.

Thanks - Larry KN6WC Please reply via e-mail

708. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: dougrand@i-2000.com
Message-ID: <4e9a5d$c08@i-2000.com>
Source record: 107812

WD-40 is great stuff. I used to work building bridges and several times my walkie talkie (ham) fell into the salt water. My standard procedure was to leave it where it fell, remembering where it was. I would go back after work with SCUBA, retrieve the radio and put it into a bucket of water from the bay. Then upon returning home, I would dip the radio into alcohol and blow it out with air pressure. I did that several times until I was sure all the water I could get to was displaced. Then, I would spray it full of WD-40 and blow it out again, doing this at least two times to get the WD-40 into all the crevices. I never damaged a radio and did this at least 4 times with one unit. Only the battery wire from the terminal to the battery would burn out while it was under water. I would take the radio to work the next day.

Doug KN2Y

subbustr@whidbey.net (DAVE M . SCHERTZER) wrote:

xxUse WD-40 on my mobile rig to fix a LCD prob and
xxit worked!!!! Tried contact/tuner spray and had to
xxre-apply every 2 weeks, WD-40 no probs fer the
xxlast 6 months..works fine in a pinch.....

xxde ve7-lfa
xx

709. Re: MC1496/1596 obsolete ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: opworld@worlnet.fr
Message-ID: <4eacmg$2n8@aldebaran.sct.fr>
Source record: 107813
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <137cc$16c20.255@news.ak.net>, Hello <opworld@worldnet.fr>
wrote:
>
>Is there a remplacement for this chips ?...

Hello,
Thanks for your answers.

Have
a nice opworld@worldnet.fr
Day

710. Need info on RG 62

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: sfritts@usit.net
Message-ID: <4eaopo$of1@news.usit.net>
Source record: 107814

Could someone tell me what the impedence of RG62 is?

Thanks,

Steve

711. Re: Impedance of RG316 tefloncoax?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: jforest@ionet.net
Message-ID: <4eaq1t$7f4@ionews.ionet.net>
Source record: 107815

In article <4e6q5v$f97@cc.iu.net>, wnewkirk@iu.net says...
>
>In <DLnEHM.1Do@inter.NL.net>, geertj@ripe.net (Geert Jan de Groot) writes:
>>Does anyone know the impedance of RG316 tefloncoax?
>>
>>Thanks,
>>
Its 50 ohms, I used tons of in the military.

jim

712. Larsen Antennas Job Posting

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: stobty@pacifier.com
Message-ID: <4ea07f$9a7@vixen.cso.uiuc.edu>
Source record: 107816
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.broadcasting,rec.radio.cb,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

MARKET MANAGER - ANTENNA PRODUCTS

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Successful candidates will have in-depth experience in radio related products up to 800 MHz. Direct experience with LMR and Amateur markets is preferred. Bachelor92s degree in Business or Marketing, or extensive related business experience required. Position responsibilities include: Product line management, pricing, sales programs, new products, training, and technical support. This position will also include a competitive compensation, incentive, and benefits plan.

Interested candidates may respond by forwarding a resume92 including income history to:

Larsen Electronics, Inc.
ATT: Human Resources Manager
P.O. Box 1799
Vancouver, WA. 98668-1799
FAX: 1-360-944-7556

Pre-employment drug screen required. Larsen Electronics is an Equal Opportunity Employer.

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Pacifier Online Data Service Dialup SLIP/PPP User
To register: (360) 693-0325 or telnet pods.pacifier.com

-
---

713. Re: Adding lighting to Red Lion Controls counter modules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: eburton@buphy.bu.edu
Message-ID: <4eb79f$efi@news.bu.edu>
Source record: 107817
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

faunt@netcom2.netcom.com (Doug Faunt N6TQS +1-510-655-8604) writes:

:Does anyone have an address or other contact information for Red Lion
:Controls?

From the '95 eem guide:

Red Lion Controls
20 Willow Springs Cir.
York, PA 17402

Tel: 717-767-6511
Fax: 717-764-0839

Hope this helps.

Erich Burton 3-2602 eburton@bu.edu
Boston University Physics Department

714. Kit HF receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: davide70@aol.com
Message-ID: <4eb81n$a7l@newsbf02.news.aol.com>
Source record: 107818

Do any manufacturers still make "low-tech" SW receivers or kits? I've seen one that MFJ sells (a regenerative set) -- does anyone know if it actually works? It claims CW and SSB as well as AM. Should I believe that? If it performs up to its claims it would be perfect for my purposes. Any suggestions for me? Thanks.

Dave Ek

715. Re: dummy load?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4ebd96$hpg@hg.oro.net>
Source record: 107819

>Could someone either send me,or direct me to a site where I might find plans
>to construct an inexpensive dummy load (50 ohm).I don't need it to handle
>more than 10 to 15 watts maximum.Thanx!

Sure, how about a 10 watt load. You can probably figure out a way to make it a 15 watt load if you want to later increase the power once you understand the basics. All it takes is 15 resistors instead of 10 and a change in resistor value.

And how about we go into it using a BNC connector?

Get yourself a piece of scrap single or double-sided PC board material 2" square or so (or a piece of copper plumbing flashing sheet the same size), a UG-1094 BNC female connector, and ten 510 ohm, 1 watt carbon film resistors. (Sources at the end of this post.)

(Alright, for you 50-ohm purists. Eight 510 ohm and two 470 ohm resistors. I'm trying to keep this simple and cheap for the kid.)

Drill a 3/8" hole in the dead center of the PC board and mount the connector with the center solder cup pin on the copper side of the board. Be sure the lockwasher on the connector makes good contact with the copper foil.

Using the minimum possible lead-length connect one end of each of those resistors to the center pin of the connector (it is going to be a big glob of resistor leads, but make it as neat as you can) and the other end of those resistors to the copper foil. The trick is to arrange the resistors like the spokes of a wheel so that the net effect is all the resistors coming off the center pin and going to their own little patch of copper foil with equal spacing on all the resistors.

It is very important to (a) keep the lead length on the resistors as short as possible, certainly below 1 cm (1/2") and (b) keep the center part of the body of the resistor AWAY from the foil to the extent possible. I'll try an ascii drawing:

```
__ solder resistors to center pin
resistor /[__]----|__ of connector here
------------/-------[ ]--------------------Copper ground plane--
solder to [ ] BNC Connector
top of board
here
```

(My ASCII art isn't quite as well developed as my RF stuff yet.)

Source: Copper PC board scraps at any electronic "junk" store or Radio Snack. Connector and resistors at Mouser Electronics -- call 1-800-346-6873 for their latest catalog. Connector is $2 or so, and resistors are a nickel apiece in hundreds or a dime apiece in onesie-twosies. Whole thing shouldn't cost you $5.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak
RST Engineering | for the company. I OWN the cotton-
Grass Valley CA 95945 | pickin' company.
voice/fax 916/272-1432 | AR Adv. WB6BHI Cessna 182A N73CQ
rst-engr@oro.net | Comm'l Pilot & CFI Airplane/Glider A&P Mechanic

716. Re: NiCAD Charger Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: ddenter@bnr.ca
Message-ID: <4ebec2$dlo@bcarh8ab.bnr.ca>
Source record: 107820

In article <4eb1j2$sa7$3@mhafn.production.compuserve.com>,
Jay Craswell <73016.27@CompuServe.COM> writes:
>There is also a schematic and PCB of WB0VGEs Nicad charger in CIRCAD format.
>If you have Compuserve access GO HAMNET. I think it is in lib 6 (or else 22)
>the Homebrew area.

How about posting a copy of it (or putting it on a web/ftp site) for
those of us who don't have Compu$erve.

thanx,
Dean.
--
Dean Denter work -> ddenter@bnr.ca
VA3CDD play -> ddenter@magi.com
[[[[[[[[[[[[[I speak only for myself]]]]]]]]]]]]]

717. Re: Reselling the home brew equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: buddy.sohl@shivasys.com
Message-ID: <4ebek8$sas@news.paonline.com>
Source record: 107821

John Wilcox/NS1Z <ns1z@rumford.agate.net> wrote:

>Was talking with my buddy this evening on the subject of buying and
>selling home brew gear. It was my opinion that home brew gear took such a
>beating at the sales table/tailgate due to the fact that most hams
>believe that no other ham has any construction skills and therefore, any
>equipment built by Mr. No Skill is worthless, except for the parts (which
>may or may not be any good!). Is this the way it is in your area of the
>world? What would make a piece of HB gear more valuable to the astute
>buyer?

Hi John....the very best way for homebrew gear to attain
value, is 1. quality construction, 2. quality outward
appearance, 3. documentation, 4. good salesmanship.

As far as the average ham not being competent to
build...that can be debated. Many hams are all thumbs, many
are competent kit builders, lots are great from scratch but
the final product looks awful (works great though). Then
there is that few that can take a box of junk, build the
best looking, functional and loaded with bells and whistles
piece of equipment. So if you want a good piece of homebrew
equipment, learn the principles behind the box, and either
build it yourself or look deep into the construction of your
potential purchase.

73 de KC4WQ

BTW my stuff works but looks like @#$%

718. Re: League publishes yet another mpu article sans software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: rmmiller@ix.netcom.com
Message-ID: <4ebh33$1uj@ixnews6.ix.netcom.com>
Source record: 107822

Well unless my eyes have failed me, my December QEX just arrived complete with a feature article on a mpu based receiver controller that is cute and usable, but like the antenna tuner article this article does not offer any vehicle to obtain source code--but the author's company is willing to sell a kit; a kit which looks to be reasonably price, but a commercial product none the less. This again brings up the question of article vs. review. Perhaps a few letters to our elected Division Directors would bring this to the attention of League officials--

73
Bob, KE6F

719. Re: Need 10 meter conversion info for Cobra 148gtl

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-26 00:00:00 UTC
From: rreames@ix.netcom.com
Message-ID: <4ebhro$nn7@reader2.ix.netcom.com>
Source record: 107823

In <Pine.OSF.3.91.960123231534.2524A-100000@res.WPI.EDU> ee formerly known as jeff feigin <hi@wpi.edu> writes:
>
>i've seen the "kits," its $50 for a crystal.
>
>jeff
I've got a 148gtl working now on 10. I spent quite a bit of time scanning the 'rec.radio.cb' and finally got the 'best of the best' from all the info on converting it. I also happen to know a part time tech for a local CB shop. We actually did the conversion 'over the air' - he read me the instrutions and I made changes.

The simplest method for putting it up on ten was just to change the crystal according to this formula:

>From: nadzam@garlic.com (Bill Nadzam)
>To: rreames@ix.netcom.com
>Subject: Re: Need 10 meter conversion info for Cobra 148gtl
>Organization: garlic.com
>Date: Tue, 16 Jan 96 14:40:50 GMT
>Status: RO
>
>> I need some info on converting a Cobra 148gtl to the 28.3-28.5
>>portion of 10 meters. I've picked up some stuff about modifying the
>>PLL (mb8719) circuit from some CB info but I'm not sure I trust it.
>>Has anyone done this successfully? Also need to modify the RIT for
>>both receive and xmit.
>
>What you want to do is change the loop mixer xtal.
>The loop mixer should now have a 11.3258 Mhz xtal.
>to move it up 450Khz of operation, 40 cb standard channels,
>you change the xtal to 11.4758 Mhz. That is 1500 differance.
>So to want to move to 28.315 Mhz operation then change it to
>11.7758 Mhz.
>
>11.3258 Chn 1 = 26.965
>11.4758 chn 1 = 27.415
>11.6258 Chn 1 = 27.865
>11.7758 Chn 1 = 28.315
>
>Now via additional switches you can also change the operation
>of the unit, but the crystal change is the best bet, and just
>retune the loop mixer coil and your in bussiness.
>
>

>The info below is from a home page on the Net. Look from Yahoo for
>CB Radio and you should find it there under MODS I think.
>==
>
>The MB8719 PLL is a popular chip.This is due mainly to it's expansion
>capabilities and the excellent Uniden chassis
>This includes Uniden Grant/Madison, Cobra 148/2000 GTL etc.
>To get coverage from 27.455 - 28.045, find the MB8719 PLL, then
>locate pins 10, 11 and 12. Cut the trace going to these pins.
>Locate a ground (chassis or trace). Using a SPDT Center off switch,
>connect the switch to pins 10,11,12(IC side of the cut) on the MB8719
>PLL.This Mod will give you the normal 'FCC' channels in the center
>position. In the Down position 27.605 - 28.045, In the up position
>27.455 - 27.605(on channels 2 -14).
>
>Further expansion can be done by replacing the loop mixer
>crystal, giving you a new set of 40 channels per crystal.
>
>
>
>---
>Name: Bill.Nadzam
>E-mail: "Bill Nadzam" <nadzam@garlic.com>
>---

I actually found an '11.7830' crystal in the misc. crystal
bin at a local surplus electronics store - it covers from
28.345 to 28.0.

The mod for the 'clarifier' depends on the vintage of the
148gtl. Apparently there are two mods, one for the old style
radio and one for the new. I can supply the one for the new one
if anyone is interested. Mine tunes about +-10khz.

I guess I should just put everything together and post it all.
My next mod is going to be the one with the PLL so it will
tune 29mhz - and then a crystal calibrator and an FM mod.

Not a bad radio for a winter project! (and only cost 50 bucks)

Randy WA0TKO
rreames@ix.netcom.com

720. WTB-QRP equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: allenm@rain.org
Message-ID: <4ecb70$3q9@news.rain.org>
Source record: 107738
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.swap

```
Looking for some qrp equipment in any condition
name a price for what you got...
also looking for el cheapo straight keys for the
group to use..donations also gratefully
accepted..tnx 73 Kb6pqg.....allenm@rain.org
```

721. Re: Adding lighting to Red Lion Controls counter modules

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: faunt@netcom12.netcom.com
Message-ID: <FAUNT.96Jan27001506@netcom12.netcom.com>
Source record: 107739
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

It helped, a lot. They make a counter module that's got a larger display, and is backlit, in red or yellow/green.
I'm going to use one to keep track of the setting of a DK3 mobile antenna.
73, doug

722. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ed3lf$15j@newsbf02.news.aol.com>
Source record: 107740

In article <4e9a5d$c08@i-2000.com>, dougrand@i-2000.com (Prowler) writes:

>Then upon returning home, I
>would dip the radio into alcohol and blow it out with air pressure.

I do that with my egg sandwichs. My wife objects to the smell though. I never tried it with a radio.

723. Radio Amateur Microwave Groups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: JLAN98A@prodigy.com
Message-ID: <4ed78i$pei@useneta1.news.prodigy.com>
Source record: 107741

I am looking for radio amateur groups on internet that cover microwave
activity,1Ghz. and up.
73 Ken
Burtchaell W6GHV

724. Re: League publishes yet another mpu article sans software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan27.135707.1661@ke4zv.atl.ga.us>
Source record: 107742

In article <4ebh33$1uj@ixnews6.ix.netcom.com> rmmiller@ix.netcom.com(Robert M. Miller) writes:
>Well unless my eyes have failed me, my December QEX just arrived
>complete with a feature article on a mpu based receiver controller that
>is cute and usable, but like the antenna tuner article this article
>does not offer any vehicle to obtain source code--but the author's
>company is willing to sell a kit; a kit which looks to be reasonably
>price, but a commercial product none the less. This again brings up
>the question of article vs. review. Perhaps a few letters to our
>elected Division Directors would bring this to the attention of League
>officials--

You think that's bad, look at the Feb 96 QST. There's a "feature"
article that's nothing but an advertisement for the 96 Handbook.
And one of the columns answers reader questions with instructions
for ordering this League publication or that League publication
rather than just giving a straight forward answer to the question.
It appears that the feature and columnist pages of "the catalog"
have now been co-opted to advertise League wares as well as the
color ad section in the back.

I don't know about you, but I find this distressing. I expect
ads in QST, I expect ads for ARRL products in QST, but I don't
expect the editorial content to be turned into nothing more than
advertisements. I think it has become time to take a hard look
at ARRL publication editorial policy.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

725. Re: Need VCO, 1-2 gHz - circuit or off-shelf

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: mawyatt@ix.netcom.com
Message-ID: <4edfe0$d5i@ixnews4.ix.netcom.com>
Source record: 107743
Cross-posted to: aus.electronics,aus.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.components

In <4ebi51$qa8@oznet11.ozemail.com.au> sjandrew@ozemail.com.au (Steve Andrew) writes:
>
>Hi
>I'm trying to obtain a VCO covering 1 - 2 gHz for use in a
>spectrum analyser project. I know Minicircuits (USA)
>manufacture a range of VCO modules but I am told that they
>are un-available in Australia due to future production being
>sold out.
>
>If you know of an outlet for these units, or any other
>types, or have a proven circuit, please let me know.
>
>Many thanks in advance... Steve
>
>
>
Steve,

You might try Avantek or Z-Comm in the US.

Hope this helps,

Mike Wyatt

726. PCB artwork transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: JLAN98A@prodigy.com
Message-ID: <4edgss$1iha@useneta1.news.prodigy.com>
Source record: 107744

I am looking for successful ways to transfer printed artwork to board for etch resist.I seem to have a lot of difficulty cleaning paper off the board after transfer without damaging traces.I can use transparencies with no problems but paper backed images is another story.Is there someother paper besides ordinary printer paper that can be used?

73 Ken Burtchaell W6GHV

727. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: mac@cis.ksu.edu
Message-ID: <mac.822765040@zaurak.cis.ksu.edu.cis.ksu.edu>
Source record: 107745

clinton.peebles@saloon.bcbbs.net (Clinton Peebles) writes:
>B>re: grapefruit powered Transmitter, Did Gilligans Island know about it?

>Didn't the professor make a battery charger out of coconuts on one
>episode? They had to stir their coconuts.

For a senior EE lab project many, many years ago, I powered a small
receiver from what I called a "primary" cell, or "P-cell" for short.'

Yes, the electrolyte was pee (urine, for the highly-educated). :-)

Got an "A" on the Project, too!

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
Myron A. Calhoun, PhD EE; Assoc. Prof. (913) 532-6350 work, 532-7353 fax
Amateur packet radio: W0PBV@N0ARY.#NOCAL.CA.USA.NOAM 539-4448 home
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

728. Re: QST Antenna Tuner Kit-First Impressions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: mac@cis.ksu.edu
Message-ID: <mac.822765325@zaurak.cis.ksu.edu.cis.ksu.edu>
Source record: 107746

garland@ohstpy.mps.ohio-state.edu (JIM GARLAND) writes:

>My only quibble with the kit is ....
>the traces seem to be extremely thin....

My first PC board (quite some years ago) was for a "boxcar"
(sample and hold) circuit, and it refused to work properly
until we jumpered one particular trace with a wire to increase
its current-carrying capacity.

I learned a lot in that project!

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
Myron A. Calhoun, PhD EE; Assoc. Prof. (913) 532-6350 work, 532-7353 fax
Amateur packet radio: W0PBV@N0ARY.#NOCAL.CA.USA.NOAM 539-4448 home
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

729. Re: NiCAD Charger Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4edold$d4q$1@mhafn.production.compuserve.com>
Source record: 107747

I should really get the growing batch of Circad schematics and Pcb files and put them someplace! There is the mobius.gmu.edu site that has the old demo but I'm not clear on what else can be plunked in that area. Any suggestions on a site everyone can use?
--
73, Jay WB0VNE - AAV5TH

730. What is an A59RX tube from Cetron?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: mac@cis.ksu.edu
Message-ID: <mac.822766218@zaurak.cis.ksu.edu.cis.ksu.edu>
Source record: 107748

Someone just gave me, the local certified "junk collector", a dozen
A59RX tubes in boxes, plus a couple of loose ones. I can't find it
in any of my many manuals. It LOOKS like some kind of photodetector,
with a half-cylinder "reflector", but, instead of running down the
axis, the "collector" wire is a square loop kinda runing around the
edge of the half-cylinder.

Can anyone tell me what it really is. I won't add it to the clutter if
it doesn't have some potential use greater than a one-time rifle target.

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
Myron A. Calhoun, PhD EE; Assoc. Prof. (913) 532-6350 work, 532-7353 fax
Amateur packet radio: W0PBV@N0ARY.#NOCAL.CA.USA.NOAM 539-4448 home
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

731. Re: PCB artwork transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: mds@lexis-nexis.com
Message-ID: <4edqq4$jmc@meaddata.lexis-nexis.com>
Source record: 107749

In article <4edgss$1iha@useneta1.news.prodigy.com>, JLAN98A@prodigy.com says...
>
>I am looking for successful ways to transfer printed artwork to board for
>etch resist.I seem to have a lot of difficulty cleaning paper off the
>board after transfer without damaging traces.I can use transparencies
>with no problems but paper backed images is another story.Is there
>someother paper besides ordinary printer paper that can be used?
>
> 73 Ken Burtchaell W6GHV
>
Ken,

While I use the toner transfer method to make quick boards I still fall back to the photographic method for more complicated boards or those that I want to be near perfect. I have not found a way to get a good transfer from a paper source. I have been able to do it with photographic methods.

GC Electronics had a film (I guess they still do) that could be used to lift an image from a printed source to create a negative. It is an interesting process that they used. They put the film on top of the paper immage. They used the reflectivity of the paper, white vs the black traces, to expose the film. The reflection caused more exposure over the white areas than the black traces. You could create a positive or a negative. One required a second sheet of film to reverse the image. This is more work than using a transparency for the original artwork. I don't use this method unless I a using artwork from a magazine.

Most of the time I create my own artwork and print it on transparency using my Laerjet 4+ printer. I then purchase presensitized (positive type) PC boards from PCB Kits. I gave up on "spray your own resist" since I never could get the stuff to stick or be consistant in thickness. Lay the transparency over the presensitized board between a piece of glass. Expose with a photoflood light. Develope the board in a developer from PCB Kits. Let dry and then dump in the etch tank. It is actually easy to do and does not take much more time than the toner transfer method. You don't need a darkroom or any special equipment. I use a 40watt light bulb in my utility room when working with the sensitized board. The only "photograph" equipment I bought was the photoflood.

A 3x6 single sided epoxy-glass board runs around $3.33, double sided is $3.81. These are year old prices so they may have changed slightly. Developer was $4.95/quart the last time I bought some. Standard board sizes range from 4x4 inches to 12x12.

I never see this company advertise in any ham magazines. I ran across them at the Dayton Hamvention several years ago. I called them last week so I know they are still in business. Give them a call and request information if you

want to try the photography method.

PCB Kits
750 Mariday
Lake Orion, MI 48362
(810) 693-0328
Owner: Steven Springstube

Good Luck

Mike Suhar, WB8GXB

NOTE: I am not affilated with PCB Kits. I am just a customer that liked their product.

732. Re: League publishes yet another mpu article sans software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <rCmEpAA8NmCxEwo4@ifwtech.demon.co.uk>
Source record: 107750

In article <1996Jan27.135707.1661@ke4zv.atl.ga.us>, Gary Coffman wrote:
>
>You think that's bad, look at the Feb 96 QST. There's a "feature"
>article that's nothing but an advertisement for the 96 Handbook.
>And one of the columns answers reader questions with instructions
>for ordering this League publication or that League publication
>rather than just giving a straight forward answer to the question.
>It appears that the feature and columnist pages of "the catalog"
>have now been co-opted to advertise League wares as well as the
>color ad section in the back.

There are two sides to this.

On the one hand, it's bad policy to hijack magazine space allocated to feature articles in order to plug a new publication (regardless of who publishes it).

On the other hand, I find in my monthly question-and-answer column that many of the questions can be answered straight out of existing major handbooks. In such cases it's a waste of space to repeat standard information unless there's something extra to be added.

The other problem is that it isn't always possible to give a full explanation in the space available, so once again it's necessary to recommend a book. Sometimes this may look like a plug, but it isn't. For example, for further reading on any aspect of VHF/UHF DX, I almost always recommend my own book - not from vanity or for gain, but because it contains everything that I and several others knew about the subject when we wrote it!

You'd imagine that every ham in the USA would own a copy of the ARRL Handbook and would know roughly where to find information in it. But the inquiries to this newsgroup (and no doubt to ARRL) show that ain't so. The culture seems to have changed, and many radio hams just don't seem to buy books any more, or know how to find things out from them.

That's why I keep on telling people: Buy books and read them, because most of what you want to know is already in there. Or if you want it in netspeak, think of the ARRL Handbook as amateur radio's FAQ file.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

733. Baked Black Wrinkle Paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: 73447.325@compuserve.com
Message-ID: <4edu72$k5e@dub-news-svc-2.compuserve.com>
Source record: 107751

I'm looking for someone to replaint a small metal base in its original, black wrinkle color and finish. Anyone out there that can help?

-Paul, N9AZ

734. Syntor Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: dcimp@aol.com
Message-ID: <4edv8r$h8m@newsbf02.news.aol.com>
Source record: 107752

I am In need of a Syntor Manual, Not the X or the X9000 version, just the
Plain old Syntor. I need one soon, anybody got one for sale?
DCimp@AOL.COM

735. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ee9o0$p4m@maureen.teleport.com>
Source record: 107753

> subbustr@whidbey.net (DAVE M . SCHERTZER) writes:
> Use WD-40 on my mobile rig to fix a LCD prob and
> it worked!!!! Tried contact/tuner spray and had to
> re-apply every 2 weeks, WD-40 no probs fer the
> last 6 months..works fine in a pinch.....
>
> de ve7-lfa

I use WD-40 all the time on swiches (rotary, AC power, relays, you name it), noisy potentiometers, sticky slugs in old UHF rig inductors, locks, and anything else that slides or turns. Doesn't hurt any of 'em. It's one of the Great Inventions of the 20th Century (along with latex paint and plastic drinking straws. .)

Roy Lewallen, W7EL

736. Duplexer to Bandpass Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: tom.alldread@minfox.com
Message-ID: <9601271820359298@minfox.com>
Source record: 107754

V>I have a 3 cavity mobile VHF duplexer that I would like to re-configure
>as a 2m bandpass filter. Is this possible? How would I go about it?

Hi John:

You have made curious. I wonder what a 3 cavity mobile duplexer
is used for?

If the cavities are full size band pass/ band reject type
you could possibly utilized one ~as is~ for a front end band pass filter
but it probably will limit your operational band coverage on 2 meters.
You would also need to make sure the band reject notch is tuned well
away from the band segment of interest.

BTW Sinclabs had a 2 meter two cavity bandpass filter designed
for mobile operation available a couple of years ago.

73 de VE7TMA

---
* QMPro 1.53 * Very Best Regards, tom.alldread@minfox.com

737. Re: ***Ham WEB page For all people to use! Give it a TRY***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-27 00:00:00 UTC
From: konus@mbox.vol.it
Message-ID: <4eeasu$hpu@everest.vol.it>
Source record: 107755
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

rong@computer.net (Ron Goldstein) wrote:

>Try our web page:

>www.computer.net/nwara/wb2ixr.html

Please see my home page too.

http://www.geocities.com/Athens/2309/
Greetings from Raffaello Di Martino

PacketAddress: IW7CHV@IW7CHV.IPUG.ITA.EU
E-mailAddress: konus@mbox.vol.it -o- iw7chv@amsat.org
WWW: http://www.geocities.com/Athens/2309/
FidoAddress : 2:335/723 A.C.T.A.I. BBS ++39-80-5538562/5538402/5538405

738. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan28.204639.8744@ke4zv.atl.ga.us>
Source record: 107674

In article <4e9a5d$c08@i-2000.com> dougrand@i-2000.com (Prowler) writes:
>WD-40 is great stuff. I used to work building bridges and several
>times my walkie talkie (ham) fell into the salt water. My standard
>procedure was to leave it where it fell, remembering where it was. I
>would go back after work with SCUBA, retrieve the radio and put it
>into a bucket of water from the bay. Then upon returning home, I
>would dip the radio into alcohol and blow it out with air pressure. I
>did that several times until I was sure all the water I could get to
>was displaced. Then, I would spray it full of WD-40 and blow it out
>again, doing this at least two times to get the WD-40 into all the
>crevices. I never damaged a radio and did this at least 4 times with
>one unit. Only the battery wire from the terminal to the battery
>would burn out while it was under water. I would take the radio to
>work the next day.

WD-40 is a good water displacer (that's what the WD stands for),
it's a fair penetrating oil, and a poor lubricant. It can leave
a sticky residue which can accumulate and hold dirt. There are
better products for each of its uses, though few are as universal.

A better way to deal with electronic equipment dunked in salt
water is to soak it in a warm fresh water bubble bath solution
for an hour or two. Then rinse is throughly with clean warm
water. This will remove the salt residue much more completely
than using alcohol or WD-40, neither of which are solvents for
salt. You can then blow out as much water as possible and let
it air dry in a warm dry place overnight. This is what we do
to cameras our photographers dunk in salt water. We avoid
using WD-40 because of its residue's unfortunate tendency to
accumulate and trap dirt, which isn't good for the optics or
the recorder mechanism.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

739. wrinkle paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: ecgallup@mlode.com
Message-ID: <4egsuk$40b@news.wco.com>
Source record: 107675

Can anyone advise where wrinkle paint may be obtained, (such as black or gray), or how it may be made. Thanks.

Ed ecgallup@mlode.com

740. Icom IC-W31A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: .
Message-ID: <4egu7v$ioh@news.ios.com>
Source record: 107676
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.scanner,alt.radio.scanner

Does anyone have MODS for IC-W31A Dual Band HT?

Also how far out of band dose it Rx? Will it Rx 800Mhz

Please Email Infomation
Thank You N2RVM

Email: rod@venus.hili.com

741. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <310c03fb.7626226@news.duke.edu>
Source record: 107677

jwill@cabell.vcu.edu (J. Sherwood Williams) wrote:

>I want to add a BFO to the tiny Sony SW1 .... first, I need to get
>hold of a copy of the schematics ...<sigh> guess its another $15.00
>to Sony for the service manual. I don't know if I will be able to fit
>the above circuit into the radio, because it requires a FT-50-43
>toroid core and an IF transformer.; might be too bulky.

No reason I know of why it *has* to be internal. Just build it in a
small (plastic) box with its own battery and put it close to the SW1.

Jim

742. Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: Mark Mansfield <markman@UTM.Edu>
Message-ID: <310C3942.40B4@UTM.Edu>
Source record: 107678
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

I'm looking for a pair of Collins (or equiv.) mechanical filters for a CW receiver which I'm building. I'm planning on using one of the filters in the front of the IF and using another in the "tail-ended" mode after the last IF amp. The filters should be the same frequency with the tail-ended filter 100 to 200 hertz wider than the first filter (this was recommended in a book by Doug DeMaw although the same bandwidth should work as well if the filters have the same frequency).

If you have any of these critters, drop me a note with specifics such as part number, bandwidth and price.

I would also like to hear from anyone else that has used this technique in a home built receiver.

Thanks,
Mark

743. Re: Need VCO, 1-2 gHz - circuit or off-shelf

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: Eliot Fenton <ics@alice.icanect.net>
Message-ID: <310B4CAE.605B@alice.icanect.net>
Source record: 107679
Cross-posted to: aus.electronics,aus.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.components

Steve Andrew wrote:
>
> Hi
> I'm trying to obtain a VCO covering 1 - 2 gHz for use in a
> spectrum analyser project. I know Minicircuits (USA)
> manufacture a range of VCO modules but I am told that they
> are un-available in Australia due to future production being
> sold out.
>
> If you know of an outlet for these units, or any other
> types, or have a proven circuit, please let me know.
>
> Many thanks in advance... Steve

Steve.....

You might try our company (ICS Inc.) for VCO's. If you haven't caught one of our ads in Microwaves & RF or RF Design, we're one of the largest suppliers of surface mount VCO's in the
United States. We stock practically every model we have for sampling purposes, certainly in the
1-2 GHz range. And hey, you can't beat the price for samples (they're free!). If you're interested, you can contact me at our address below or send me an E-mail. Incidentally, below is
data from one our models. It's available in either a .910 or .5" package.

BTW, you mentioned that Mini-Ckts will not be delivering some of their models in the near future.
From what I understand, they work real well, and have ample supply. Are they going to an allocation schedule because of demand? I'd be interested in any info you have on that.

Best Regards,
Eliot Fenton

ICS Inc.
5440 N.W. 55th Blvd.
Suite 11-105
Coconut Creek, FL 33073
TEL: 1-800-396-5185 (Sales)
954/480-8571 (tech support)
954/480-6950 (fax)

E-Mail: 72633.3247@compuserve.com
==========

MODEL 1020S_A
VCC = +12V
ICC = 27 mA

Serial No.
090954

Voltage	Freq (MHz)	Kv (MHz/V)	Po (dBm)
0	981.8	65.5	11.2
1	1047.3	66.5	12.2
2	1113.8	67.4	12.5
3	1181.2	66.4	12.6
4	1247.6	69.6	12.5
5	1317.2	64.2	11.9
6	1381.4	66.2	12.1
7	1447.6	66.4	11.9
8	1514.0	66.0	11.5
9	1580.0	65.0	10.7
10	1645.0	70.3	10.7
11	1715.3	75.5	10.5
12	1790.8	81.5	9.5
13	1872.3	75.3	8.5
14	1947.6	62.0	8.2
15	2009.6	62.0	7.8

744. Any Mods for TM-201?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: sfritts@usit.net
Message-ID: <4eeg4l$97k@news.usit.net>
Source record: 107756
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Just wondered if there are any mods for the Kenwood TM-201 2 meter rig.

Thanks,

Steve

745. Thermally conductive epoxy for heat sinking????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: russ@gslink.net
Message-ID: <4eegp7$5ik@ddi2.digital.net>
Source record: 107757

I have a need for heat sinking a TO-220 to the instrument case without using screws (dielectric breakdown/hi-pot test issues). Any folk out there know of such a compound? I heard it exists (and is $$$), any pointers out there would be much appreciated. If you could e-mail me a reply it would be best, as I can only access this group on weekends (and my server doesn't keep postings for more than a few days- might miss the replies).

Thanks in advance,

Russ

russ@gslink.net

746. COIL WINDING PROGRAM (freeware Win95 only)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: jenna.design@awinc.com
Message-ID: <4eeig5$3qv@kryten.awinc.com>
Source record: 107758

Coil Winding Program for Windows95 CBVSR1.ZIP

COILBUILDER VSR can be found on the SimTel network

1 example......

ftp.coast.net
/SimTel/Win95/HamRadio/cbvsr1.zip

CBVSR1.ZIP allows the Amateur Radio homebrew enthusiast to
design a variety of inductors for QRP Ham radio projects.
Winding data for powdered-iron, ferrite, air and temperature-stable
VFO core inductors can be designed with this software.
In addition, CBVSR.ZIP can read, write and print ASCII files which are
displayed in its integral text editor. A linked Help file is included.

Special requirements: Windows 95 , mouse.

FREEWARE

Thanks

747. Re: I found some old vacuum tubes ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <4eeq21$rd0@news2.deltanet.com>
Source record: 107759
Cross-posted to:
sci.electronics.equipment,sci.electronics.components,sci.electronics.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

These are from the old All American Five tube radios of the 50's and 60's. They are common enough, but they might be useful to someone. I would try postinmg to the more appropriate newsgroup rec.antiques.radio+phono.

Mike Mackaplow (mike@chemeng.Stanford.EDU) penned:
: While helping clear my mom's garage, I found some
: vacuum tubes:

: Magnavox 12BA6
: Magnavox 12BE6
: Magnavox 12AV6
: RCA Electron Tube 35C5
: Sentinel 12BE6
: TEN 12BE6
: General Electric MA?
: ?? 12BA6
: ?? 12AV6
: ?? 35 W4 (2)

: Is there a simple way to tell if the tubes are good ? How
: would I find out if they have any value ? How would one go about
: or, more likely, donating them ?

: Thanks,

: Mike Mackaplow
: mike@chemeng.stanford.edu

: P.S. - I am in the southern San Francisco Bay area

--
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@delta1
Rancho Santiago Community College District	.deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://rsc.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
I have gone out to look for myself.. If I should
return before I get back, hold me until I get here.
"You can flame your brains out -- it won't take long."
#===T=u=z=l=a==C=o=m=p=a=n=y=.=.===t=h=r=e=e='=s==L=e==C=r=o=w=d=!==#

748. Help: MS230 Mini o'scope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: kaboom@usit.net
Message-ID: <kaboom-2701962318100001@arcade-slip21.dynamic.usit.net>
Source record: 107760

I just acquired a Non-Linear Systems MS230 mini oscilloscope at a hamfest. The thing works, but it has an oddity I can't figure out. With the trigger set to "internal," everything works as it should. When I set it to "auto," it free-runs, as it should. But, then it will not sync to a signal at all... it just continues to free-run. I went through the scope and tested and/or swapped out just about every semiconductor in it (luckily, the ICs are in sockets, and are common CMOS). Nothing helps. Anybody have one of these things? Is it possible it was designed that way? Anybody have a schematic for it? Please reply via email, and thanks for any help you can give me. For that matter, is NLS still in business?

Michael

749. Help: MS230 Mini o'scope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: kaboom@usit.net
Message-ID: <kaboom-2701962320290001@arcade-slip21.dynamic.usit.net>
Source record: 107761

I just acquired a Non-Linear Systems MS230 mini oscilloscope at a hamfest. The thing works, but it has an oddity I can't figure out. With the trigger set to "internal," everything works as it should. Of course, the trace goes out when the trigger is not locked. (It's supposed to do that.) When I set it to "auto," it free-runs, as it should. But, then it will not sync to a signal at all... it just continues to free-run, making the auto function useless. On all other scopes I've ever used, auto will make it free-run when unlocked, and then it reverts to a locked condition when the trigger syncs to the signal.

I went through the scope and tested and/or swapped out just about every semiconductor in it (luckily, the ICs are in sockets, and are common CMOS). Nothing helps. Poking around with my other scope turned up nothing, either. Anybody have one of these things? Is it possible it was designed that way? Anybody have a schematic for it? Please reply via email, and thanks for any help you can give me. For that matter, is NLS still in business?

Michael

750. NEED BOOK FOR TIMEWAVE DSP-9

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: djarrell@pixi.com
Message-ID: <4ef4js$eoa@rigel.pixi.com>
Source record: 107762

Need help finding book for a Timewave DSP-9 Digital Signal Processor.

From the Desk of:

Dave Jarrell
Amateur Radio Station - AH6OB
Honolulu, HI

E-mail: djarrell@pixi.com

751. Golden Eagle Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: sba3020@InfoNET.st-johns.nf.ca
Message-ID: <4efbir$sl2@coranto.ucs.mun.ca>
Source record: 107763

Wanted a Service Manual for a Browning Golden Eagle MK III tube type CB Radio. I am also trying to find out all about the Golden eagle radios and clubs, usergroups, etc. E-mail me if you have any info.

Thanks, Carl.

752. Re: Thermally conductive epoxy for heat sinking????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: mark@reson.com
Message-ID: <4efebc$9ed@daffy.sb.west.net>
Source record: 107764

russ@gslink.net (Russ LeBlanc) wrote:

>I have a need for heat sinking a TO-220 to the instrument case without
>using screws (dielectric breakdown/hi-pot test issues). Any folk out
>there know of such a compound? I heard it exists (and is $$$), any
>pointers out there would be much appreciated.

Omega Engineering makes thermally conductive epoxies. I suggest
getting their catalog since they have a few different types. They are
very good at responding to queries.
Phone: (800) 826-6342
Fax: (203) 359-7990

You might want to check out Thermaloy (214) 243-4321 or
Wakefield Engineering (617)245-5900. One of them also make a
thermally conductive epoxy.

-
Mark Chun | mark@reson.com | Santa Barbara, California

753. Re: Grapefruit powered XMTR?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: hbaker@netcom.com
Message-ID: <hbaker-2701961900230001@10.0.2.15>
Source record: 107765

In article <mac.822765040@zaurak.cis.ksu.edu.cis.ksu.edu>, mac@cis.ksu.edu
(Myron A. Calhoun) wrote:

> clinton.peebles@saloon.bcbbs.net (Clinton Peebles) writes:
> >B>re: grapefruit powered Transmitter, Did Gilligans Island know about it?
>
> >Didn't the professor make a battery charger out of coconuts on one
> >episode? They had to stir their coconuts.
>
> For a senior EE lab project many, many years ago, I powered a small
> receiver from what I called a "primary" cell, or "P-cell" for short.'
>
> Yes, the electrolyte was pee (urine, for the highly-educated). :-)
>
> Got an "A" on the Project, too!

Let me shake your hand! No, on second thought...

--
www/ftp directory:
ftp://ftp.netcom.com/pub/hb/hbaker/home.html

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** in any form. **

754. 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: george@sky.net
Message-ID: <4efpb3$pt2@alpha.sky.net>
Source record: 107766
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Well its happened.We the club members of the 82 repeater in Kansas City are dam mad.We didnt get
to vote and we didnt get to talk before the board decided to shut down the repeater between the hours
of 11 pm and 5:30 am.
There is over 600 members and these member are told that they can use the repeater because of one
person that misuses the repeater.This person has made it a living hell for all of us.So the club does this
and thinks that members will just say ok.On top of that the FCC is no help at all.They dont give a dam if
ham radio looks and sound like the cb band.And the old timers just say"Nocodes are the problem"
Well I give up.I dont know what to do anymore.I wonder why I got my ticket.And as I see it the hole
hobby is going down the drain.Im going to just call the ham band the chicken band radio.
And to Rick and all of the people that act like Rick.I hope that you are happy with what you did to the
82 repeat in Kansas City.
To the FCC I think that they should fire the lot and close the door.They are worthless.

Please do not reply back because I just dont give a care anymore.....

For the rest of you out there that love ham radio,I wish you good luck.

73s KB0MAI

755. Re: 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: Eddie Caffray <caffraye@magnum.wpe.com>
Message-ID: <310B8C36.5D9@magnum.wpe.com>
Source record: 107767
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

george@sky.net wrote:
>
> Well its happened.We the club members of the 82 repeater in Kansas City are dam mad.We didnt get
> to vote and we didnt get to talk before the board decided to shut down the repeater between the hours
> of 11 pm and 5:30 am.
> There is over 600 members and these member are told that they can use the repeater because of one
> person that misuses the repeater.This person has made it a living hell for all of us.So the club does this
> and thinks that members will just say ok.On top of that the FCC is no help at all.They dont give a dam if
> ham radio looks and sound like the cb band.And the old timers just say"Nocodes are the problem"
> Well I give up.I dont know what to do anymore.I wonder why I got my ticket.And as I see it the hole
> hobby is going down the drain.Im going to just call the ham band the chicken band radio.
> And to Rick and all of the people that act like Rick.I hope that you are happy with what you did to the
> 82 repeat in Kansas City.
> To the FCC I think that they should fire the lot and close the door.They are worthless.
>
> Please do not reply back because I just dont give a care anymore.....
>
> For the rest of you out there that love ham radio,I wish you good luck.
>
> 73s KB0MAI

On the 146.85 repeater here in Central NY we had trouble with one user also. He made it that
no one would even monitor the reapeater anymore. The club voted to ban him and we did. The reapeater is a great place to be again.

--

Eddie N2XDS

http://www.wpe.com/users/caffray/ham.html

756. Needs: Power Module for 1299 Mhz TX homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: c_struyk@pi.net
Message-ID: <NEWTNews.822871916.6243.c_struyk@pi-user.pi.net>
Source record: 107768

Hello dr. Om's,

I need a power module for 23cm (1299 Mhz) applications
I'm running here the PI1GTB interlink station for TCPIP packetradio in the
Southern parts of the Netherlands...

For this pupose i'v build myself an Interlink-I sem-duplex tranceiver (german
design). The outputpower is only 600 mW

I'm now looking for a power module and schematics to build a little amplifier
for say 3 to 5 watts on 1299 Mhz..

Who can help..

Thanks for reading

73' pa0gtb, Cor

757. Re: 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: "Anthony R. Gold" <tgold@microvst.demon.co.uk>
Message-ID: <822849775snz@microvst.demon.co.uk>
Source record: 107769
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <310B8C36.5D9@magnum.wpe.com>
caffraye@magnum.wpe.com "Eddie Caffray" writes:

> On the 146.85 repeater here in Central NY we had trouble with one user
> also. He made it that no one would even monitor the reapeater anymore. The
> club voted to ban him and we did. The reapeater is a great place to be
> again.

That's a weird story. The jerk behaves badly enough to be banned but is
obedient enough to obey your request that he voluntarily not transmit on
the legally licensed (input) frequency. Were there some strong words of
`encouragement' that went with the banning?

Regards,
--
Tony - G3SKR / AA2PM email: tgold@panix.com
tgold@microvst.demon.co.uk
packet: g3skr@n0ary.#nocal.ca.usa.na

758. Re: tuning in CW/SSB stations w/ AM only radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: jwill@cabell.vcu.edu
Message-ID: <4egjrc$38d@cabell.vcu.edu>
Source record: 107770

There is a good article on adding a BFO to an AM transistor radio in the August 1985 issue on QST Page 34 ... try your local library for a copy of the article.

I want to add a BFO to the tiny Sony SW1 .... first, I need to get hold of a copy of the schematics ...<sigh> guess its another $15.00 to Sony for the service manual. I don't know if I will be able to fit the above circuit into the radio, because it requires a FT-50-43 toroid core and an IF transformer.; might be too bulky.

Robert S. Williams: KD4ZPH

759. FS: 3CX800A7 & More

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: bones@swcp.com
Message-ID: <4egqcc$825@sloth.swcp.com>
Source record: 107771

```
FOLLOWING ITEMS UP FOR GRABS:
UNIT
ITEM QTY PARTNO MANUF CONDITION PRICE
---- --- -------- -------- -------------------- -----
1 1 3CX800A7 EIMAC NEW - SEALED BOX $300
2 2 811A SVETLANA NEW - WITH 15
SOCKETS & PLATE CAPS
3 2 4CX250B EIMAC BOX MARKED "SPARE" 20
4 2 4CX400A SVETLANA NEW - WITH 175
SOCKETS & PLATE CAPS
ADDS UP TO $720 . . . WILL UNLOAD LOT FOR $450, INCL SHIPPING.
CONTACT K8BI@SWCP.COM - NO PHONE CALLS PLEASE.
```

760. Special Events Station!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: cmlong@mtu.edu
Message-ID: <4egrsu$rmm@techsrv1.tech>
Source record: 107772
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.antenna

Thank-you for reading this. My name is Michael Long (KB8WPE) and I am the Public Relations Manager for the Husky Amateur Radio Club (HARC) whose callsign is W8YY. The club is located on the Michigan Technological University campus.

Starting on February 1, 6am EST, and continuing on until February 3, 6am EST, W8YY will be running a Special Events station for Michigan Tech's Winter Carnival '96. The frequencies listed below are the most likely place we will be operating. For this Special Events station we have 8"x11" certificates that would look great on anyones' wall! All you have to do is contact us and then send a QSL with a self addressed stamped envelope to receive the certificate.

Here are the frequencies:

Band Frequency Mode Time
160m 1.90 MHz LSB 8pm-8am
75m 3.90 MHz LSB 10pm-8am
40m 7.25 MHz LSB 7pm-10pm
20m 14.250 MHz USB majority of the day (8am-7pm)
17m 18.150 MHz USB if open 8am-7pm
15m 21.350 MHz USB if open 8am-7pm
10m 28.40 MHz USB if open 8am-7pm
2m 144.2 MHz USB All the time
146.58 MHz FM All the time
70cm 432.100 MHz USB All the time

Again, thank-you for reading this message and all of us here hope to here from you during the Special Events station!

For any more info. email me at cmlong@mtu.edu or the Club President, Dave Gillahan, at dmgillah@mtu.edu

You can also check out our homepage at
http://techsrv1.tech.mtu.edu:8080/harc.html
Though it is just beginning it does have a little information on it.

Sincerely,
Mike Long -KB8WPE-

--
/\
\ Michael Long || Public Relations Manager /
/ Callsign: KB8WPE || for HARC (W8YY) \
\ Email: cmlong@mtu.edu || Email: harc-l@mtu.edu /

/ Phone: (906)487-5664 || Majors: EET and EMT \
\/\/\/

761. WANT YIG

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-28 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4egs52$t58@newsbf02.news.aol.com>
Source record: 107773

Need Yig Oscillator for BWO replacement in spectrum analyzer.

VINYN1VC

762. Telephone Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: Doug DesEnfants <dougd@www.prairieweb.com>
Message-ID: <4ehl9q$4kk@news.tcd.net>
Source record: 107680

I just bought a fax data voice switch that is supposed to answer the fone and route the call for me. It needs more ring voltage than what the phone company says they can provide. I have about 75-80 volts and the unit needs 100v to work right. Does anyone have any Idea how I might be able to boost the ring voltage legally and without harm to my equipment? I have not ever heard of anything commercial but would go that route if you know of something. Thanks for reading and please e-mail me with any replies. Also please don't flame me for this post not being related close to Ham Radio, being around Hams for 25 years I know that they are a bunch that might have a solution.

Doug WA7WXQ
dougd@www.prairieweb.com

763. Re: Baked Black Wrinkle Paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDLxADL.Euu@netcom.com>
Source record: 107681

73447.325@compuserve.com wrote:

: I'm looking for someone to repaint a small metal base in its original,
: black wrinkle color and finish. Anyone out there that can help?

PEP Boys "Manny, Moe, and Jack" automotive stores sell black wrinkle
finish spray paint. It works fine.

Thomas KI4N

764. Re: wrinkle paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: ericness@aol.com
Message-ID: <4ei2tf$c9j@newsbf02.news.aol.com>
Source record: 107682

My initial response would be to try a well stocked hardware store. I bought some there a few years ago but to tell the truth, I haven't looked lately. I do know that Antique Electronic Supply (602-820-5411) sells this paint. They carry jet black, grey and brown.

Eric, WD6DGX

765. Need help to reduce mobile Hf Rig noise from Jeep Wrangler computer module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: millerrj@vitro.com
Message-ID: <4eih5o$b2o@gatekeeper.vitro.com>
Source record: 107683

I have an Icom 706 in my 1994 Jeep Wangler and I get a great deal of QRM (s9) noise when the ignition switch is in the on position even when the motor is not running. If i pull the fuse for the car's computer module the noise goes away. Does anyone know of a way to reduce this noise problem.

Thanks for any help.

Bob (N3TXB)

766. Re: COIL WINDING PROGRAM (freeware Win95 only)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: Mark Pettigrew <ltimp@shu.ac.uk>
Message-ID: <4eijvg$4ci@redwood.shu.ac.uk>
Source record: 107684

jenna.design@awinc.com wrote:
>Coil Winding Program for Windows95 CBVSR1.ZIP
>
>COILBUILDER VSR can be found on the SimTel network
>
>1 example......
>
> ftp.coast.net
> /SimTel/Win95/HamRadio/cbvsr1.zip
>
> CBVSR1.ZIP allows the Amateur Radio homebrew enthusiast to
> design a variety of inductors for QRP Ham radio projects.
> Winding data for powdered-iron, ferrite, air and temperature-stable
> VFO core inductors can be designed with this software.
> In addition, CBVSR.ZIP can read, write and print ASCII files which are
> displayed in its integral text editor. A linked Help file is included.
>
>
> Special requirements: Windows 95 , mouse.
>
> FREEWARE
>
>
> Thanks
>
For information: I just tried this location, and it should be a lower case , ie

ftp://ftp.coast.net/SimTel/win95/hamradio/cbvsr1.zip

Mark

767. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <4eiks1$l4a@pacific.mps.ohio-state.edu>
Source record: 107685

The suggestion to soak dirty rigs in warm water with bubble bath raises a question I've wondered about for years. I recall reading a Tektronix service note years ago, in which dirty Tek scopes were washed out with warm soapy water, rinsed, and air dried at a warm (100 degree) temp for a day or so. If I recall correctly (I read this about 30 years ago), the xfmrs were removed, and afterwards the paper caps were replaced, and switches lubricated.

I've never had the nerve to try this technique. I just can't bring myself to dunk, say, my Central Electronics 100V in the bathtub and let it soak. I'd be interested in knowing others' experience with this cleaning method. Is it really necessary to remove the transformers? What happens to the cardboard sleeves of IF transformers? Does it hopeless ruin paper capacitors? Are there other precautions to take?

Jim W8ZR

768. Chip set for SSB Short Wave Transmitter/Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: bill@survival.demon.co.uk
Message-ID: <822925679.1506@survival.demon.co.uk>
Source record: 107686

Chip set for SSB Short Wave Transmitter/Receiver

I am initiating a new design for a SSB Short Wave Transmitter/Receiver operating at 4.005 Meg. A chip set is required to form the base of the design. Pre production prototype is scheduled for completion June 96.

Would be grateful for any information or help.

769. Re: Thermally conductive epoxy for heat sinking????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDLyAMz.5s8@netcom.com>
Source record: 107687

qrk (mark@reson.com) wrote:
: Omega Engineering makes thermally conductive epoxies. I suggest
: getting their catalog since they have a few different types.

Since thermal compound is essentially zinc oxide mixed with
grease, I wonder if zinc oxide powder mixed with a little epoxy
as a binder would be an acceptable thermal epoxy? I suspect it
would work fine for many applications.

Thomas KI4N

770. Re: CMOS SUPERKEYER II CURRENTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4eitka$g4n@mksrv1.dseg.ti.com>
Source record: 107688

The Super Keyer II is referred to as the K-1 Logi-Key
these days. It's a fantastic invention! I built the
November, 1990 QST version back then, still have it,
no problems ever, only needs batteries changed about
once a year, and I use it heavily.

This is such a good design that Kenwood included it
in the new TS-870S as standard equipment, with six
pages in the manual telling how to use it.

Wonderful device! Gotta have it!!
73 de KC5NG

771. Re: WTB: 9-pin plugs for EFJ

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4eitat$g4n@mksrv1.dseg.ti.com>
Source record: 107689

Are you talking about the 9-pin octal-type power plugs
and jacks? If so, I probably have a couple of each in
my junque-box. Please confirm that this is what you
are looking for, describe EXACTLY the style you need,
and I'll see if I have any. If I do, they're yours
free, if you repay the postage.

Reply via private e-mail. 73, Dean KC5NG

QRP%mimi@magic.itg.ti.com

772. Re: Baked Black Wrinkle Paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4eiqol$51g$3@mhadf.production.compuserve.com>
Source record: 107690

I asked this same question a few years back. I was told that Harly Davidson dealers can order black Crackle paint that should be exactly what you want. Note that you need to do more than paint it on. It needs to cure in an oven and I can't comment on that. If you are an ARRL member you might want to contact Member services and ask for any old pieces on doing this properly. I just know some old QST bit has to talk about this. BTW I've got an old J-36 Bug (WWII Era) that some nut painted lime green. I'm going to figure out how to do this as well. Just don't know when I will have the time,.
GL 73 CUL
--
73, Jay WB0VNE - AAV5TH

773. Re: Radio Amateur Microwave Groups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4eiqim$51g$2@mhadf.production.compuserve.com>
Source record: 107691

I just made my first contact on 1296.1MHZ So if you find such an area sign me up as well!
--
73, Jay WB0VNE - AAV5TH

774. Re: wrinkle paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan29.151709.13202@ke4zv.atl.ga.us>
Source record: 107692

In article <4egsuk$40b@news.wco.com> ecgallup@mlode.com (Ed Gallup) writes:
>
> Can anyone advise where wrinkle paint may be obtained, (such as black or
>gray), or how it may be made. Thanks.
>
> Ed ecgallup@mlode.com

Most good hardware stores carry an extensive line of spray paints,
including wrinkle finish black. Try an Ace Hardware, True Value
Hardware, or Home Depot. I prefer Krylon brand but there are others.

One trick to getting a good wrinkle finish is to make sure the item
to be painted is warm, and warm it further after painting. I sit the
object on top of the boiler jacket (about 120 F) of the buidling heating
system. In about 45 minutes to an hour, you'll have a nice wrinkle finish.

One caution, for some reason only black gives a good wrinkle finish.
If you want a different color, get the wrinkle with black, and then
top that with whatever color you want after the black dries and wrinkles.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

775. Re: Baked Black Wrinkle Paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4eitfe$g4n@mksrv1.dseg.ti.com>
Source record: 107693

In article <4edu72$k5e@dub-news-svc-2.compuserve.com>,
73447.325@compuserve.com says...
>
>
>I'm looking for someone to replaint a small metal base in its original, bla
>ck wrinkle
>color and finish. Anyone out there that can help?
>
>-Paul, N9AZ

You can do this yourself, and get great results! The
paint is sold at auto parts stores in spray cans. I
use it frequently to paint radio cabinets and such.
Baking isn't necessary if you wait 'til the summer
and let the painted item sit in the hot sun for a few
hours (works well in 100 degree Texas heat!). Much
of the time, I don't even strip off the old paint,
because the wrinkle finish is thick enough and coarse
enough to hide imperfections in the old base coat.

Be sure to read the directions on the spray can!

Good luck!
73 de KC5NG

776. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan29.164551.13916@ke4zv.atl.ga.us>
Source record: 107694

In article <4eiks1$l4a@pacific.mps.ohio-state.edu> James Garland
<garland@ohstpy.mps.ohio-state.edu> writes:
>The suggestion to soak dirty rigs in warm water with bubble bath raises a
>question I've wondered about for years. I recall reading a Tektronix
>service note years ago, in which dirty Tek scopes were washed out with
>warm soapy water, rinsed, and air dried at a warm (100 degree) temp for a
>day or so. If I recall correctly (I read this about 30 years ago), the
>xfmrs were removed, and afterwards the paper caps were replaced, and
>switches lubricated.
>
>I've never had the nerve to try this technique. I just can't bring
>myself to dunk, say, my Central Electronics 100V in the bathtub and let
>it soak. I'd be interested in knowing others' experience with this
>cleaning method. Is it really necessary to remove the transformers? What
>happens to the cardboard sleeves of IF transformers? Does it hopeless
>ruin paper capacitors? Are there other precautions to take?

Paper components can be a problem. They swell when wet, and won't
go back to their original dimensions when dried. If the paper wrap
of a power transformer is well varnished, it may not swell, but there
is a risk. Paper capacitors, and electrolytic capacitors with paper
sleeves, will be ruined. The tuning scales on some old radios are
paper based, and they can be ruined too unless they are heavily
oiled or waxed.

The bubble bath method works well on modern equipment, which has
little or no paper components, and warm water is about the only
thing that's effective if salt water has been in the equipment,
because you've *got* to get all the salt out or you'll have
continuing corrosion problems, and besides, the salt water would
have ruined any paper components anyway.

I've put old WWII equipment in the dishwasher. Dishwasher detergent
is really harsh, but boy does it clean well. You're going to have
to replace the old paper capacitors in that equipment anyway, just
due to age, so that's not much of a concern. And the hot water will
soften or remove wax that may be used to seal adjustable coils, but
the rig will probably need an alignment anyway, so that's not a big
concern either. But the dishwasher detergent can etch aluminum, and
aluminum parts can come out frosted instead of shiny, so you might
think about that before pitching that old radio in the dishwasher.
Any bare aluminum parts that will show should probably be removed.
Painted or anodized aluminum is Ok to put in the dishwasher. Steel
parts will do fine too, just don't use the dry cycle. There's heat
and humidity during the dry cycle that'll rust bare steel for sure.

Take the radio out after the wash cycle, blow out all the water
you can, and leave the radio in a warm low humidity place overnight
to finish drying (a very slightly warm oven can be used to hasten
the process, but don't overdo the heat).

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

777. Re: League publishes yet another mpu article sans software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4eir2h$51g$4@mhadf.production.compuserve.com>
Source record: 107695

Hi Gary, I have to check that out and see what your talking about. I'm no doubt totaly off base but I often get calls about things that are in the user manual. When I say "uhh have you read the manual." some folk get really teed off at me. "Why should I do that when I have your home phone #?" <grin> Anyhow I wonder if suggesting another book, Say Bill Or handbook would get you ire up? Is it just the self promotion angle? Or the lack of answers? If it is self promotion remember what Grandma said, "The squeeky oil gets the greese!" Or, "If I don't toot my horn who will?" Uncle Wayne? Anyway stop breaking all that stuff!!! <grin>
73 CUL
--
73, Jay WB0VNE - AAV5TH

778. Re: WANTED schematic of a IF-100 interface!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4eir4m$51g$5@mhadf.production.compuserve.com>
Source record: 107696

Is the IF-100 the Yeasu RS232 converter?
--
73, Jay WB0VNE - AAV5TH

779. Need ferrite beads.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: an142028@anon.penet.fi
Message-ID: <161305Z29011996@anon.penet.fi>
Source record: 107697

Anyone know where I can find some ferrite beads suitable for
"RF choking" #22/#24 wiring to a FP connector on my transceiver?

E-mail direct to pbock@melpar.esys.com.

TNX ES 73,

Paul, K4MSG

--****ATTENTION****-****ATTENTION****-****ATTENTION****-***ATTENTION***
Your e-mail reply to this message WILL be *automatically* ANONYMIZED.
Please, report inappropriate use to abuse@anon.penet.fi
For information (incl. non-anon reply) write to help@anon.penet.fi
If you have any problems, address them to admin@anon.penet.fi

780. Books for Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: beard@acca.nmsu.edu
Message-ID: <4ehp3l$5sm@bubba.NMSU.Edu>
Source record: 107698

```
Hints and Kinks for the Radio Amateur
Solid State Design for the Radio Amateur
Solid State basics for the Radio Amateur

I do very little of this type of thing now.
If you want them they are yours for $1.00 each
I'd rather you take all three for $3.00 + postage.

David Beard
WA4QGA
```

781. WTB: GR874 to type N cable or adapters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: schiller@mv.us.adobe.com
Message-ID: <199601292208.OAA01745@missal.mv.us.adobe.com>
Source record: 107699

Hi,

I am in the market for three GR874 to type N or SMA (preferably male) cables.
50 ohm. Any length from 6" to 2'. These cost about $64 each new
(from Pasternack Enterprises), so I am looking for something
considerably cheaper.
In addition I need one GR874 to BNC adapter.

I might not be reading e-mail again until Feb 5, but you can reach
me by phone at (510) 581-3792 from 10am to 11pm PST.

thanks,
- Steve

782. Re: wrinkle paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDLyD12.BA2@netcom.com>
Source record: 107700

Ed Gallup (ecgallup@mlode.com) wrote:
: Can anyone advise where wrinkle paint may be obtained, (such as black
: or gray), or how it may be made. Thanks.

PEP Boys "Manny, Moe, and Jack" automotive stores sell black wrinkle finish spray paint. It works fine. But follow the instructions on the can for best results.

The manufacturer and part number is:

plasti-kote Wrinkle Finish
No. 217 Black

plasti-kote Co. Inc.
Medina, Ohio 44256

As I recall, several other colors are also available. If you don't have a PEP Boys nearby, then a hobby shop, paint store or hardware store could probably order it for you. It is not expensive, about the same price as any spray paint.

73,

Thomas KI4N

783. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: Bob Archer <Bob.Archer@columbiaSC.ncr.com>
Message-ID: <DLyAKJ.5ws@ncrcae.ColumbiaSC.ATTGIS.COM>
Source record: 107701

Jim,
I'm with you in regards to dunking. But back in the
1950's I watched my father wash out radio chassis's with mineral
spirits followed by soapy(Tide) water. He never dunked them,
used a paint brush & quick rinse. He would also set them in the
sun for a few days before reassembly. These were ones he
purchased, fixed & resold.

I now collect some of the same type that he did that to,
but I don't think I will ever wash any of mine that way.

Thanks for reminding me of the memories....

>==========James Garland, 1/29/96==========
>
>The suggestion to soak dirty rigs in warm water with bubble bath
>raises a
>question I've wondered about for years. I recall reading a Tektronix
>service note years ago, in which dirty Tek scopes were washed out with
>warm soapy water, rinsed, and air dried at a warm (100 degree)
>temp for a
>day or so. If I recall correctly (I read this about 30 years ago), the
>xfmrs were removed, and afterwards the paper caps were replaced, and
>switches lubricated.
>
>I've never had the nerve to try this technique. I just can't bring
>myself to dunk, say, my Central Electronics 100V in the bathtub and let
>it soak. I'd be interested in knowing others' experience with this
>cleaning method. Is it really necessary to remove the
transformers? What
>happens to the cardboard sleeves of IF transformers? Does it hopeless
>ruin paper capacitors? Are there other precautions to take?
>
>Jim W8ZR
>

Bob Archer N4ECO

784. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: rs@ham.island.net
Message-ID: <012996190937Rnf0.79b6@ham.island.net>
Source record: 107702

James Garland <garland@ohstpy.mps.ohio-state.edu> writes:

>The suggestion to soak dirty rigs in warm water with bubble bath raises a
>question I've wondered about for years. I recall reading a Tektronix
>service note years ago, in which dirty Tek scopes were washed out with
>warm soapy water, rinsed, and air dried at a warm (100 degree) temp for a
>day or so. If I recall correctly (I read this about 30 years ago), the
>xfmrs were removed, and afterwards the paper caps were replaced, and
>switches lubricated.
>
>I've never had the nerve to try this technique. I just can't bring
>myself to dunk, say, my Central Electronics 100V in the bathtub and let
>it soak. I'd be interested in knowing others' experience with this
>cleaning method. Is it really necessary to remove the transformers? What
>happens to the cardboard sleeves of IF transformers? Does it hopeless
>ruin paper capacitors? Are there other precautions to take?

Never tried it with a scope. I have tried it with an 8 track tape player
(in their heyday) whose owner had tried to improve the grip of the rubber
belt drive by liberally smearing it with honey. Naturally, it crystallized
into a very hard lump.

I soaked it for several hours, shook all the water off, and let it air dry
in a stream of warm air from a nearby cooling fan for several days. After
relubrication and a new belt, it was fine.

I'd only do this if there was no other way to clean it, and removing the
transformers is certainly advisable on AC equipment.

Bob, VE7HS
--
rs@ham.island.net

In the first place God made idiots; this was for practice;
then he made school boards - Mark Twain

785. 4CX1600B Amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: Mike Sims <nasfred@interserf.net>
Message-ID: <310D977B.3E3E@interserf.net>
Source record: 107703

Just about finished building a 4CX1600B, 80 - 10 meter amp. using the information from the Svetlana Specification Sheet and 4CX1600B amp. article of Marv Gonsior, W6FR, in the Winter 1995
edition of Communications Quarterly. Looking for suggestions, warnings, cautions, etc. regarding
what I should lookout for the first time the 4CX1600B amp. is turned on or before it is turned
on.

73s,
Mike Sims, K4GMH

786. JVFAX pcb layout ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: David Johnson <david.j2@ukonline.co.uk>
Message-ID: <xQJlEDADCSDxEwDZ@ukonline.co.uk>
Source record: 107704

Hi All,

Does anyone have a pcb layout for the AM/FM JVfax interface? That's the one with the LTC1099 i/c on it.

Thanks in advance

David Johnson G4AON, e-mail to david.j2@ukonline.co.uk

787. ham software wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: jessica <jhoo219@crown.net>
Message-ID: <4eivih$d9v@kiwi.crown.net>
Source record: 107705

```
hi name is toby call is n9fdf. i new to the www.
i would like to know where i can find a good place
to donwload some ham software here on the net...
73
```

788. Re: Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.48.01D0DE2B@azstarnet.com>
Source record: 107706
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <310C3942.40B4@UTM.Edu> Mark Mansfield <markman@UTM.Edu> writes:
>From: Mark Mansfield <markman@UTM.Edu>
>Subject: Looking for mechanical filters.
>Date: Sun, 28 Jan 1996 21:04:34 -0600

>I'm looking for a pair of Collins (or equiv.) mechanical filters for a
>CW receiver which I'm building. I'm planning on using one of the filters
>in the front of the IF and using another in the "tail-ended" mode after
>the last IF amp. The filters should be the same frequency with the tail-
>ended filter 100 to 200 hertz wider than the first filter (this was
>recommended in a book by Doug DeMaw although the same bandwidth should
>work as well if the filters have the same frequency).

>If you have any of these critters, drop me a note with specifics such
>as part number, bandwidth and price.

>I would also like to hear from anyone else that has used this technique
>in a home built receiver.

Haven't used Collins filters but have used 9 MHz KVGs in this application. (XF9B input, XF9A output) I know there is a theoretical advantage to having the second filter, but I didn't note much improvement in my HB receiver. There can be a complication in the AGC system though. After conversation with Wes Haywood, I decided to move the AGC pickoff ahead of the second filter. The time delay through the second filter was causing severe AGC pumping. See KN5S's article in a recent QEX for more on this.

Assuming no i-f overload and a decent product detector, you basically suffer no more than 3 dB extra noise at the audio amp without the second filter. Of course if the first filter has poor stopband rejection or there is leakage around it, the second filter can help.

Good luck,

Wes -- N7WS

>Thanks,
>Mark

789. Re: Eddystone receiver 4 sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: wjohnson@baton.com
Message-ID: <DLy5Fp.11s@gateway.baton.com>
Source record: 107707
Cross-posted to: rec.antiques.radio+phono,rec.radio.amateur.homebrew,rec.radio.swap

Old Man <70401.134@CompuServe.COM> wrote:

>Eddystone 830/7 receiver in excellent condition. A few scratches
>but very nice. Have a full set of spare tubes and manual.
>This model last tube receiver made by Eddystone. Rare here in
>USA. $600 OBO plus shipping.
>Sandy W5TVW

I subscribed to this newsgroup for the first time on Friday, and yours was the first post I read. I went home on the weekend and dusted off my Eddystone S750/1 which had been in storage for about 15 years, plugged it in and it still works like a charm. It's in excellent condition and includes the matching external speaker. Can anyone tell me anything about it's history, rarity, current value, etc.?

Thanks

Wayne Johnson
Sudbury, Ontario

790. License Exams

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9600298229.AA822962346@mails.imed.com>
Source record: 107708

Does anyone know of any license exam sessions in the Houston or
southeast Texas area in the immediate future?

I have my code speed up and I want to get to a test before I loose it
again. The closest one I know of is Victoria on March 9. I'd rather
not wait that long!

Thanks.

Ray Mack
WD5IFS
mack@mails.imed.com

791. SOURCE Code for SSTV

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-29 00:00:00 UTC
From: triack@fred.net
Message-ID: <triack-2901962342100001@triack.fred.net>
Source record: 107709

looking for any source code for sstv

thanks
N3VTV
John Stalnaker

792. Re: 82 Repeater in Kansas City/Repeater Use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: sparkfel@primenet.com
Message-ID: <4elgqo$q73@nnrp1.news.primenet.com>
Source record: 107624
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

rob@pe1chl.ampr.org (Rob Janssen) wrote:

>In <310B8C36.5D9@magnum.wpe.com> Eddie Caffray <caffraye@magnum.wpe.com> writes:

>> On the 146.85 repeater here in Central NY we had trouble with one user also. He made it that
>>no one would even monitor the reapeater anymore. The club voted to ban him and we did. The
>>reapeater is a great place to be again.

>How do you manage to effectively ban malicious users from a repeater?
>Of course this problem is known all over the world, but at least over
>here we have not yet found an effective way of stopping them. How do
>you do that?

Go to the Arizona Repeater Association's Home Page to see how this is done. It involves actively pursuing people who engage in such activity. The ARA, as a matter of routine, has an interference committee dedicated to tracking these people down.

Despite reports to the contrary, the FCC does frown on this activity, and will enforce sanctions. Just ask the people here in Phoenix about that. An NAL, Notice of Apparant Liability, carries a stiff monetary fine, about $20,000 (US) worth and forfeiture of ALL broadcasting equipment and license(s).

It has been reported to me, by Dan Ford, Commander of the SHERRIF'S Ham Radio Posse, that they also plan to actively engage in pursuing people misusing radio gear in Maricopa County. I strongly suggest that if you plan on jamming a repeater in Central Arizona, plan on getting caught.

Unfortunately, the ARA has had, for the 3rd time its existence, had to remove a member, by board action, for misconduct involving repeaters. This "gentleman" is also facing stiff legal sanctions from the FCC.

In 1995, the 3 biggest abusers of ARA repeaters WERE caught, and several others have been identified.

73,

Mark Fellhauer
KC7BXS

793. Re: Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <$GoHIDAABiDxEwi3@ifwtech.demon.co.uk>
Source record: 107625
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <n7ws.48.01D0DE2B@azstarnet.com>, Wes Stewart wrote:

>In article <310C3942.40B4@UTM.Edu> Mark Mansfield <markman@UTM.Edu> writes:
>>From: Mark Mansfield <markman@UTM.Edu>
>>I'm looking for a pair of Collins (or equiv.) mechanical filters for a
>>CW receiver which I'm building. I'm planning on using one of the filters
>>in the front of the IF and using another in the "tail-ended" mode after
>>the last IF amp. The filters should be the same frequency with the tail-
>>ended filter 100 to 200 hertz wider than the first filter (this was
>>recommended in a book by Doug DeMaw although the same bandwidth should
>>work as well if the filters have the same frequency).
>
>

>Haven't used Collins filters but have used 9 MHz KVGs in this application.
>(XF9B input, XF9A output) I know there is a theoretical advantage to having
>the second filter, but I didn't note much improvement in my HB receiver. There
>can be a complication in the AGC system though. After conversation with Wes
>Haywood, I decided to move the AGC pickoff ahead of the second filter. The
>time delay through the second filter was causing severe AGC pumping. See
>KN5S's article in a recent QEX for more on this.
>
>Assuming no i-f overload and a decent product detector, you basically suffer
>no more than 3 dB extra noise at the audio amp without the second filter. Of
>course if the first filter has poor stopband rejection or there is leakage
>around it, the second filter can help.

Too much broadband IF gain can deliver enough noise power to overload the product detector and cause unwanted (>2nd-order) intermodulation. The effect is that additional noise becomes mixed with the signal, degrading the SNR way beyond the expected 3dB.

This is a similar effect to the one mentioned some weeks ago in the discussion about measuring filter performance using a broadband high-power noise source and a spectrum analyzer. Except when limited by a narrow bandpass filter, the total integrated noise power overloads the analyzer so that the filter stopband fills up again with intermodulated noise.

In an IF amplifier, even a very moderate amount of post-filter selectivity (simple tuned circuits) is usually enough to chop down the broadband noise from the earlier stages. This makes a big improvement to the SNR without introducing delays which could affect the AGC. In other words, you can have the best of both worlds without the expense of a second mechanical or xtal filter.

Bring back IF transformers!

>
>Good luck,
>
>Wes -- N7WS
>
>>Thanks,
>>Mark
>

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

794. Re: Swan XTAL Filter Impedance ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4ek3f3$sou@hpscit.sc.hp.com>
Source record: 107626

In article <4eals2$b51g@rs2.ccd.harris.com>,
Doug Snowden <dsnowden@ccd.harris.com> wrote:
>I found an old Swan xtal filter the other day. I'd like to play around
>with it in a receiver circuit. It is a 487-024 freq = 9001.65 khz. I
>think I came from an old Swan Astro 100 transceiver. What is the in/out
>impedance ? Guess I could play until I got it matched if all else fails.
>
>Doug, N4IJ
>--
>Doug Snowden
>dsnowden@ccd.harris.com
>

It's probably in the neighborhood of 5000 ohms, if you want a starting
point for experimenting. They typically require a few pF. (may be negative
or positive) of shunt capacitance as well. Be sure to have 2 adjustments
on each port, so you can do both R and C.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

795. Re: HELP Interference

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: tracker@indirect.com
Message-ID: <tracker.38.0065E395@indirect.com>
Source record: 107627

>I'm trying to use my AEAfax to receive FAX/RTTY. But My computer
>generates too much interfercne. I know its not the
>monitor,mouse,keyboard,&modem. I've removed all and powered up CPU and
>still get noise. I've taken CPU to another room (on another electrical
>circuit) and still get a +20dB noise level from CPU. Now I'm on the
>second story of a townhouse and my radios are only grounded to the
>electrical system ground. I'm thinking of running a ground wire from
>second floor wind and driving a rod in the ground. Will this help? I
>know nothing about grounding.

It is very possible that you are getting EMI into your radio from the computer AC line. Locate some large toroid cores and wind 6 to 8 loops of each AC power cord through one. Try your setup again. You MAY be getting the oscillation through the ELECTRICAL ground loop you created between the computer and the radio.

Grounding at any frequency should be kept to the shortest length possible. The ground wire can act as the missing half of an antenna and actually radiate/receive signals, especially if it is 1/4 of a wave length of an operating frequency long, or longer.

Make sure you use an EARTH ground. The electrical pannel ground bus is better than nothing, but nothing beats an earth ground.

I've had these same problems and I have reduced almost all of my computer EMI problems. The only band I have problems on is 15 meters! No VHF/UHV problems!

The only EMI/RFI problems I have is with my burgler alarm. It keeps going off and the police have to respond. I only have trouble on 10, 12 and 15 meters.

I'll get all this figured out, someday.

Regards,

Mark Saunders - KJ7BS
Glendale, AZ
PACKET: KJ7BS@N7MRP.AZ.USA.NOAM
INTERNET: tracker@indirect.com

796. yaesu ft101 mods?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: George Rybicki <seryb@lims01.lerc.nasa.gov>
Message-ID: <4elmld$9bj@sulawesi.lerc.nasa.gov>
Source record: 107628

Does anyone know about the WARC band mods for the FT101, I found the 30 meter
mod and a reference to the 12 meter mod. What is the 12 meter mod? how is it done? thanks in advance for any help. 73 George

797. pc boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8064.546@acenet.com>
Source record: 107629

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

TH>Does anyone know of a supplier for bare copper-clad pc boards in odd
TH>sizes?

There are a number of suppliers listed in my file MEGALIST.TXT
or MEGALIST available all over the place.

Updated copies downloadable from BBSes at: (301) 942-2218
(301) 417-6952, (301) 590-2981, (202) 619-1494, (202) 208-7679
FTP via: lujce@hooch.cc.lehigh.edu
FTP via: adams@chuck.dallas.sgi.com
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
WWW: http://www.nd.edu/~shideg/

 SLMR 2.1a

798. Re: Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.49.0030D34C@azstarnet.com>
Source record: 107630
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <4elo7q$7ih@hobbes.cc.uga.edu> ignacy@num.ads.uga.edu (Ignacy Misztal) writes:
>From: ignacy@num.ads.uga.edu (Ignacy Misztal)
>Subject: Re: Looking for mechanical filters.
>Date: 30 Jan 1996 18:32:26 GMT

>In <$GoHIDAABiDxEwi3@ifwtech.demon.co.uk>, "Ian White, G3SEK"
><G3SEK@ifwtech.demon.co.uk> writes:
>>
>>In an IF amplifier, even a very moderate amount of post-filter
>>selectivity (simple tuned circuits) is usually enough to chop down the
>>broadband noise from the earlier stages. This makes a big improvement to
>>the SNR without introducing delays which could affect the AGC. In other
>>words, you can have the best of both worlds without the expense of a
>>second mechanical or xtal filter.
>>

>The second filter eliminates noise from the other sideband (thus
>the 3db improvement) and eliminates the hiss. One can see a diffrence
>it makes when one compares CW reception with 1st IF with 2nd IF
>filters. Disregarding differences in slopes, the 2nd IF filter cuts
>the hiss and makes the signal sound more "professional". One can have
>a similar effect with a DSP, but good DSPs are not cheaper than
>the 2nd IF filter and the 3db advanatage is lost.

I agree with Ian. In my previous post, I neglected to mention the assumption that the i-f strip included some moderate tuned-circuit selectivity. As to the reduction of hiss (over and above the image sideband noise) I fail to see an advantage to the second filter, give my earlier assumptions. The product detector is just another mixer which can be followed with an audio BP filter (doesn't have to be DSP) to achieve the same BW reduction as the second mechanical or crystal filter. In other words, except for the fold over of the image sideband, you can't tell the difference.

As to audio DSP, I must confess to being underwhelmed with my DSP-9. I consistently find that I'm using the 1.8 KHz BW even on EME strength CW. A trained ear is still a lot better (IMHO) than a box full of electronics. In the absence of QRM, I just don't see the necessity for "brick-wall" filters. A couple of synchronously-tuned passive LC circuits and a good pair of hi-fi phones work fine. No power supply, no hum, no hiss, no crossover distortion, no cost:-)

Wes -- N7WS

799. HELP WITH SELECTING FIRST HANHELD HAM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: alex948739@aol.com
Message-ID: <4emjbj$sa5@newsbf02.news.aol.com>
Source record: 107631

HI, I JUST GOT MY LICENCE AND I WANT TO BUY A HANDHELD HAM RADIO BECAUSE I AM ALWAYS TRAVELING. CAN ANYONE HAVE ANY SUGGESTIONS? I WANT IT TO BE MODIFYABLE AND I WANT TO TALK TO PEOPLE IN RUSSIA. PLEASE INCLUDE THE PRICE ALONG WITH THE MODEL NUMBERS.
THANK YOU

800. MIL VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: opworld@worlnet.fr
Message-ID: <4el6f3$r7h@aldebaran.sct.fr>
Source record: 107632
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Hi,

I've heard that a compagny name Avantek (I'm not shure) make high
quality VCO.

Does anyone have a pointer of other usefull information ?

Thanks
Have
a nice opworld@worldnet.fr
Day

801. Kit HF receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8071.546@acenet.com>
Source record: 107633

From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

DA>Do any manufacturers still make "low-tech" SW receivers or kits? I've seen
DA>one that MFJ sells (a regenerative set) -- does anyone know if it actually
DA>works? It claims CW and SSB as well as AM. Should I believe that? If it
DA>performs up to its claims it would be perfect for my purposes. Any
DA>suggestions for me? Thanks.

Dave yes, there are several to choose from.
Look at my file MEGALIST.TXT or MEGALIST that is available:

Updated copies downloadable from BBSes at: (301) 942-2218
(301) 417-6952, (301) 590-2981, (202) 619-1494, (202) 208-7679
FTP: lujce@hooch.cc.lehigh.edu
FTP: adams@chuck.dallas.sgi.com
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
URL: http://www.nd.edu/~shideg/

MEGALIST
DELAERS
TUBES
MANUALS
XTALS
(Might have .TXT extension on these lists)

Let me know what you think!
---

802. Re: HELP Interference

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: Keith Beddoe <Keith@amden.demon.co.uk>
Message-ID: <9601302111.AA000o3@amden.demon.co.uk>
Source record: 107634

George (georgef@postoffice.ptd.net) wrote:

: I'm trying to use my AEAfax to receive FAX/RTTY. But My computer
: generates too much interfercne. I know its not the

: electrical system ground. I'm thinking of running a ground wire from
: second floor wind and driving a rod in the ground. Will this help? I
: know nothing about grounding.

I had similar problems some years back using a homebrew computer. What I did was to use a noise-cancelling circuit.

What I did was to erect a short aerial next to the offending equipment and connect this to one end of a loop. Then connect the main aerial to the other. By using a potential divider and variable capacitor I could use the noise picked up on the short aerial to cancel out the noise being picked up on the main aerial.

```
---|-----#########----------
short | 1:1 main
aerial | ######### aerial
| | |
| | |
| RX
1000 ohm R C
R C
R C 200pf Variable R and C in parallel
|
|
Ground or nearest copper water pipe!
```

I hope the 'diagram' is clear.
By careful adjustment of R and C it was possible to "phase" out most of the noise. The circuit did need adjustment if large changes in frequency were made.
This circuit was also helpful in reducing TV Timebase interference on 160m.

Hope this is of interest.

73
Keith G3YOM Southampton UK

803. Re: HELP Interference

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4els94$8gv@newshost.lanl.gov>
Source record: 107635

The sort of "grounding" you're contemplating is mainly a DC or very low frequency AC ground which can help you safety wise but will do little if anything for your RF interference problems. You somehow neglected to mention what type of CPU you have but many of us have had good luck using the "RF-absorbent" spray paint available at Radio Shack and other electronics suppliers. On most computers, removal of the plastic housings and spraying a coat of this rather expensive but effective paint will knock down your interference some 20 dB or more. Using ferrite clamps and kits to pass your computer cables through also can help. Getting your antennas as high in the air and as far away from the operating / computer position helps, as well as experimenting with minor relocations of equipment in the radio room to minimize interference on desired frequencies.

--

|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
HTTP://nis-www.lanl.gov/~jdport/

804. Re: WD-40 vice Contact/Tu

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8072.546@acenet.com>
Source record: 107636

```
GC>I've put old WWII equipment in the dishwasher. Dishwasher detergent
GC>is really harsh, but boy does it clean well. You're going to have
GC>to replace the old paper capacitors in that equipment anyway, just
GC>due to age, so that's not much of a concern. And the hot water will
GC>soften or remove wax that may be used to seal adjustable coils, but
GC>the rig will probably need an alignment anyway, so that's not a big
GC>concern either. But the dishwasher detergent can etch aluminum, and
GC>aluminum parts can come out frosted instead of shiny, so you might
```

Plays havoc with loudspeakers too!

 SLMR 2.1a

805. PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823084973.2216@pinetree.microserve.com>
Source record: 107637

I have four identical PTO's in solid-state rigs that I've been trying to stabilize, with only limited success. Maybe someone with more experience in this area can help me out.

First, the oscillator is a JFET in the usual Colpitts configuration, operating from 5.0-5.5 MHz. From the factory, the two feedback capacitors are each 91 pf silver micas. The inductor is paralleled with approximately 140 pf. The latter is composed of three separate disc capacitors, ranging from N220 to N330 types.

The problem I have with the PTO's is that they all drift upward as the temperature rises. Following a ten or fifteen minute warmup, I tracked the drift over a five or six hour period as the chassis of the rig(s) gradually warmed up. The first PTO (which probably had a bad component) would drift about 1.6 KHz. The second PTO drifted about 800 Hz, and the last two units both drifted about 300-400 Hz.

I decided to tackle the worst ones first, and I began by replacing the oscillator transistors with MPF102's. This helped considerably. Next, following many, many hours of trial and error, I ended up replacing the silver micas with 100 pf polystyrene capacitors, and the remaining three compensation capacitors also with polystyrene units.

Now the first two PTO's drift upward almost an identical amount, about 200-300 Hz during the same warmup period. This may not sound like much, but the problem is that when the rig is used to transmit, chassis temperature quickly rises another 10 or 15 degrees. This causes another drift to take place during the first hour or so of a QSO, and the drift amounts to approximately 200-300 Hz. This occurs in addition to the longer-term warmup drift, and it takes place no matter how long the rig is powered on prior to the QSO.

One of the things that seems odd about this has to do with the capacitors I tried. First, as I gradually replaced the N220 and N330 capacitors with polystyrene units, the upward drift diminished. This has made me think that the PTO's were, in fact, over-compensated. Now, it's my understanding that polystyrene capacitors also exhibit a negative temperature coefficient, and that the coefficient is not particularly well controlled. Mallory states pretty wide variations for their capacitors, ranging from about -50 ppm to about -175 ppm.

So, thinking that the PTO's were still over-compensated, I went back and replaced about 100 pf in one of them with NPO discs. However, rather than reducing the drift further, or causing a downward drift, this merely caused the initial extreme upward drift to return.

There's not much left for me to do, other than trying to find some type of linear, positive-coefficient capacitor. Mallory does manufacturer them (disc type SL), but they're apparently difficult to come by. Also, I've already spent a considerable sum on polystyrene capacitors and I'm reluctant to buy additional specialized capacitors after my results with the NPO's.

If anyone has any suggestions or can point out an error in my thinking on this work, I would certainly appreciate it.

73,
Jack WB3U

806. Shielded Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823085007.2216@pinetree.microserve.com>
Source record: 107638

I'm working on a problem that requires small, shielded, PC-mount bypass caps. I need values around 0.1 and 0.05 uf, and the capacitors need to be constructed in such a way that when the "negative" lead is grounded, the inner case of the cap will prevent the "hot" side from radiating.

Can someone tell me if any of the inexpensive monolithic or tantalum capacitors are constructed this way? If so, will 0.1 uf tantalums provide satisfactory bypassing at 9 MHz? Any suggestions for other (affordable) types that will do the job?

73,
Jack WB3U

807. Re: Swan XTAL Filter Impedance ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823085803.2494@pinetree.microserve.com>
Source record: 107639

dsnowden@ccd.harris.com (Doug Snowden) wrote:
>I found an old Swan xtal filter the other day. I'd like to play around
>with it in a receiver circuit. It is a 487-024 freq = 9001.65 khz. I
>think I came from an old Swan Astro 100 transceiver. What is the in/out
>impedance ? Guess I could play until I got it matched if all else fails.

That's a good 8-pole, 2.4 KHz filter. It was used in quite a few
models of Swan and Swan-related gear, including the Astro 103 that
I own. I don't need a new filter at the moment, but could I convince
you not to play with that particular component? They're not made
anymore and someday, someone might have to trash their rig for lack
of a replacement.

Just my $.02. :)

73,
Jack WB3U

808. Re: 4CX1600B Amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823085990.2494@pinetree.microserve.com>
Source record: 107640

Mike Sims <nasfred@interserf.net> wrote:

>Looking for suggestions, warnings, cautions, etc. regarding
>what I should lookout for the first time the 4CX1600B amp. is
>turned on

Don't look into the output connector. :)

809. WTB-QRP equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: Frank.Krozel@668.station1.planetc.com
Message-ID: <004_9601312140@station1.com>
Source record: 107641
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.swap

Hi Allen, I am just about ready to place a Argo 556 for sale.
The rig is a low power version of the current production Scout, except 5 watts out. Comes with several modules, and a slight problem. On CW all OK, on SSB, small amount of side tone comes out of speaker. This is not heard on the transmit audio, but it is still there. I use a keyer with a builtin sidetone, and have turned this down, but it is there never the less. I will ship for $325, with all the modules. Call me if you are interested in it. Frank Work 708-924-1600.

810. Re: Morse code to text display wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: Ference Kish <fkish@attila.mtx.net.net>
Message-ID: <NEWTNews.822989963.13882.fkish@attila.mtx.net.au>
Source record: 107642
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc

> >
> >Hi. My dad is a Ham operator, and asked me if there were some
> inexpensive
> >way to have incoming Morse code automatically translated and displayed
> on
> >a CRT. Since I know nothing about Ham radio, I thought I'd post here.

There is a program called MORSEFFT which you should be able to find on the net
(use ARCHIE to find the site storing it)

It needs a sound blaster card as an input device. It comes with C source code,
too

811. Re: Baked Black Wrinkle Paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <4ek3jv$mon@news1.inlink.com>
Source record: 107710

Hi Paul

Both J.C. Whitney and Warshowski & Co. Automotive suppliers in Chicago sell wrinkle finish paint in aerosols.

TTUL
Gary

812. QRP Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: n2tnn@ifu.net
Message-ID: <4ejos0$lgp@news.ifu.net>
Source record: 107711

Any comments on qrp kits? I have constructed Ark40 and have a NorCal40 in the box. I was just looking for any comments to help justify buying another. 30 Meters is in desperate need of my tiny qrp signal but I don't know how to get it there.

BTW, how abt the QRP Plus???

72 Dean

813. QSL Bureau in Egypt?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: tratliff@whale.st.usm.edu
Message-ID: <4ekg7v$eia@thorn.cc.usm.edu>
Source record: 107712

I am posting this for a friend living in Egypt so please forgive me if this is the wrong newsgroup.

My friend wants to obtain an Eyptian radio license and needs a contact person. Does anyone have the address for the QSL bureau or the addresses of licensed operators in Egypt.

Please respond to me at CACHS100@AUC-ACS.EUN.EG

THANK YOU VERY MUCH,
JEFF RATLIFF

814. Need help with speech synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: swithrow@nyx.cs.du.edu
Message-ID: <4ekhbu$icn@nyx.cs.du.edu>
Source record: 107713

I am looking for help with modifiying the vocabulary or our
repeater's voice synthesizer. Is there anyone out there that
might be able to point me in the right direction regarding TI
voice synthesisers?

Specifically, I am looking for information on converting digitized
audio to LPC-10 code. Software that runs on a PC and uses .WAV
files or the like would be ideal.

Also, another option is to extract phonems from the current ROM
and recombine to create the new words that we would like to have.
Does anyone have a good phonem dictionary?

Any other help or insight would be greatly appreciated. Thanks
in advance for any help.

73,
Skip Withrow - WB0BBE
ah441@freenet.uchsc.edu

815. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: ulf.holt@nwo.mts.DEc.COM
Message-ID: <01BAEF0F.23F02AC0@osljan.nwo.dec.com>
Source record: 107714

```
add ham-homebrew
```

816. Re: 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <DLzM4E.AJ2@pe1chl.ampr.org>
Source record: 107715
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <310B8C36.5D9@magnum.wpe.com> Eddie Caffray <caffraye@magnum.wpe.com> writes:

> On the 146.85 repeater here in Central NY we had trouble with one user also. He made it that
>no one would even monitor the reapeater anymore. The club voted to ban him and we did. The
>reapeater is a great place to be again.

How do you manage to effectively ban malicious users from a repeater?
Of course this problem is known all over the world, but at least over
here we have not yet found an effective way of stopping them. How do
you do that?

Rob
--
+------------------------------------+--+
| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+------------------------------------+--+

817. Re: 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: dbaker@mail.bcpl.lib.md.us
Message-ID: <dbaker.85.000A5CBA@mail.bcpl.lib.md.us>
Source record: 107716
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <DLzM4E.AJ2@pe1chl.ampr.org> rob@pe1chl.ampr.org (Rob Janssen) writes:
>From: rob@pe1chl.ampr.org (Rob Janssen)
>Subject: Re: 82 Repeater in Kansas City
>Date: Tue, 30 Jan 1996 09:24:14 GMT

>In <310B8C36.5D9@magnum.wpe.com> Eddie Caffray <caffraye@magnum.wpe.com> writes:

>> On the 146.85 repeater here in Central NY we had trouble with one user also. He made it that
>>no one would even monitor the reapeater anymore. The club voted to ban him and we did. The
>>reapeater is a great place to be again.

>How do you manage to effectively ban malicious users from a repeater?
>Of course this problem is known all over the world, but at least over
>here we have not yet found an effective way of stopping them. How do
>you do that?

>Rob
>--
>+------------------------------------+--+
>| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
>| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
>+------------------------------------+--+

Technical solutions do exist. Using a "TX-ID" board, which uniquely
fingerprints each transmitter and a PC one can "slectively" include or
preclude individual users.

The board was not meant for that purpose, but with just a little Basic of C
codes, it workd just fine. It is especially easy if you have a single or
limited number of receive site.

Good luck and Have fun.

Don

Donald I. Baker
Reville Engineering Services
4619 Schenley Road
Baltimore, MD 21210-2525
(410) 467-7163
Custon Harsh Environment
Computers and RF Products
"Where no PC has gone before..."

818. CCITT fax via radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: Jon Bloom <jbloom@arrl.org>
Message-ID: <310E56DF.3AC3@arrl.org>
Source record: 107717
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

I'm looking for information from anyone who has developed a technique for transferring CCITT group-3 fax (i.e., standard office fax machine data) via radio. The "ideal" system would be one wherein a person at point A stuffs a document into a fax machine and it comes rolling out of a fax machine at point B, with the connection between the points being a radio link. But I'm interested in *any* techniques being used to achieve fax-via-radio. (Note: NOT WEFAX, APT or what-have-you. Just G3 fax!)

Thanks.
--
Jon Bloom, KE3Z | jbloom@arrl.org
American Radio Relay League |
225 Main St., Newington CT 06111 |

819. HELP Interference

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: georgef@postoffice.ptd.net
Message-ID: <4el9nf$h@ns2.ptd.net>
Source record: 107718

I'm trying to use my AEAfax to receive FAX/RTTY. But My computer generates too much interfercne. I know its not the monitor,mouse,keyboard,&modem. I've removed all and powered up CPU and still get noise. I've taken CPU to another room (on another electrical circuit) and still get a +20dB noise level from CPU. Now I'm on the second story of a townhouse and my radios are only grounded to the electrical system ground. I'm thinking of running a ground wire from second floor wind and driving a rod in the ground. Will this help? I know nothing about grounding.
Tnx
George

820. Re: WD-40 vice Contact/Tu

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8063.546@acenet.com>
Source record: 107719

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com

I used WD-40 to fix my 1957 Chevrolet when the alternator went bad.
I had been driving down the highway when the ignition light came on and
smoke poured out of the hood. There was a very bad burning smell.
All I did was dip the alternator in WD40 and blowit out a few times and
it was as good as new.

The following week, the engine threw a rod. I pulled the valve cover off
and sprayed WD40 into the engine and blew it out. I repeated the process
three times and after that everything was fine. Later that week, the car
broke an axle. No problem. I just sprayed WD-40 on it and the axle was
fine after that. Yup, it sure works for me!

PR>ray!! PR>Message-ID:
<4e9a5d$c08@i-2000.com> PR>Newsgroups: rec.radio.amateur.homebrew
PR>Organization: I-2000 Inc. - Internet Services

PR>WD-40 is great stuff. I used to work building bridges and several
PR>times my walkie talkie (ham) fell into the salt water. My standard
PR>procedure was to leave it where it fell, remembering where it was. I
PR>would go back after work with SCUBA, retrieve the radio and put it
PR>into a bucket of water from the bay. Then upon returning home, I
PR>would dip the radio into alcohol and blow it out with air pressure. I
PR>did that several times until I was sure all the water I could get to
PR>was displaced. Then, I would spray it full of WD-40 and blow it out
PR>again, doing this at least two times to get the WD-40 into all the
PR>crevices. I never damaged a radio and did this at least 4 times with
PR>one unit. Only the battery wire from the terminal to the battery
PR>would burn out while it was under water. I would take the radio to
PR>work the next day.

PR>Doug KN2Y

PR>subbustr@whidbey.net (DAVE M . SCHERTZER) wrote:

PR>xxUse WD-40 on my mobile rig to fix a LCD prob and
PR>xxit worked!!!! Tried contact/tuner spray and had to
PR>xxre-apply every 2 weeks, WD-40 no probs fer the
PR>xxlast 6 months..works fine in a pinch.....

PR>xxde ve7-lfa
PR>xx
---

821. Re: MIL VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: kenny@erinet.com
Message-ID: <4elvff$2qe@eri1.erinet.com>
Source record: 107720
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

opworld@worlnet.fr wrote:

Quote-"Hi,

Quote-"I've heard that a compagny name Avantek (I'm not shure) make
high
Quote-"quality VCO.

Quote-"Does anyone have a pointer of other usefull information ?

Quote-"Thanks
Quote-"Have
Quote-"a nice opworld@worldnet.fr
Quote-"Day

We can also quote to any VCO requirement. If you have a specification,
please send it to me via fax or e-mail, and we will send you a quote.

We have a Web page for RF and microwave components at:

http://www.erinet.com/kenny/microwave.html

Regards
a tout-a-l'heure

Ken Gunton WB6QWF TL Distributing - Microwave and RF Components
CAGE Code 01DH7 http://www.erinet.com/kenny/microwave.html

822. Re: QRP Kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4eluma$j53@mksrv1.dseg.ti.com>
Source record: 107721

In article <4ejos0$lgp@news.ifu.net>, n2tnn@ifu.net says...
>
>Any comments on qrp kits? I have constructed Ark40 and have a NorCal40 in
>the
>box. I was just looking for any comments to help justify buying another. 30
>
>Meters is in desperate need of my tiny qrp signal but I don't know how to g
>et
>it there.
>
>BTW, how abt the QRP Plus???
>
>72 Dean

Hi Dean, Dean here...

I have built two of the NN1G rigs which _were_ sold by Danny Stevig
(but I'm not sure he's still in biz). They work very well, and are
cheap (around $50). I believe there is a 30m version (I built the
20m and 40m versions). My 20m version was featured in the July '94
issue of QRP Quarterly.

I have built the NE-4040, also a NN1G design. He sells this kit
himself. It, too, is quite cheap (around $50). I know for sure
that there is a 30m version.

If you have a receiver that picks up 30m, try building up the
"Modified Cubic Incher" transmitter (see recent ARRL Handbooks).
I built one for 40m and it works fine. There is a 30m version
detailed in the article (same design, coil/cap changes only).
Requires fundamental frequency xtals.

Not sure about the other kits. They all seem a bit pricey,
but that's just my humble opinion.

The QRP Plus is neat, but... GEEZ... it costs B-I-G buxx!!!!!!
I played with one at a hamfest in 1994, and it was pretty
impressive, but I hear their service is only so-so, and the
rig is somewhat trouble-prone. This is hearsay only, so if
anyone has a different opinion, don't flame me!

Do you own a solid-state HF rig? Try turning the RF output
down to QRP levels and do some QRP band-blasting that way.
I've been doing it for years. Actually, all I run is QRP
CW, no matter what rig I'm using. My TS-870S makes a great
QRP rig because of its incredible receiver (you can't work

'em if you can't hear 'em!).

Good luck... 73 / 72 de KC5NG

823. Need MC1648P I.C.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <4els4h$c2uj@rs2.ccd.harris.com>
Source record: 107722

I need 2 or more of these. Anyone know where I can get small quantities
of these - some place without a minimum order?
These are 16 pin DIP VCO s.

Doug, N4IJ dsnowden@ccd.harris.com

--
Doug Snowden
dsnowden@ccd.harris.com

824. Re: Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-30 00:00:00 UTC
From: ignacy@num.ads.uga.edu
Message-ID: <4elo7q$7ih@hobbes.cc.uga.edu>
Source record: 107723
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In <$GoHIDAABiDxEwi3@ifwtech.demon.co.uk>, "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk> writes:
>
>In an IF amplifier, even a very moderate amount of post-filter
>selectivity (simple tuned circuits) is usually enough to chop down the
>broadband noise from the earlier stages. This makes a big improvement to
>the SNR without introducing delays which could affect the AGC. In other
>words, you can have the best of both worlds without the expense of a
>second mechanical or xtal filter.
>

The second filter eliminates noise from the other sideband (thus
the 3db improvement) and eliminates the hiss. One can see a diffrence
it makes when one compares CW reception with 1st IF with 2nd IF
filters. Disregarding differences in slopes, the 2nd IF filter cuts
the hiss and makes the signal sound more "professional". One can have
a similar effect with a DSP, but good DSPs are not cheaper than
the 2nd IF filter and the 3db advanatage is lost.

Ignacy Misztal Ham radio: NO9E, SP8FWB
E-mail: ignacy@uga.cc.uga.edu
University Of Georgia, 203 L-P Bldg., Athens, GA 30602
tel. (706) 542-0951

825. Re: HELP WITH SELECTING FIRST HANHELD HAM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <4emq0k$ip9@newshost.lanl.gov>
Source record: 107574

I'm sure you're joking or just fishing for flames, but you
really CAN "work Russia" with a handheld radio. If you happen
to live in south Florida or Northern New Mexico or Southern
California or the Wasatch Front in Utah or other of the several
areas having publicly available crossband remote base /
repeater systems you can get user touchtone command lists from
the owners/sysops and work DX via HF remote base from your
walkie-talkie. You'll need most likely a dual bander with PL
memory functions to enjoy both local area contacts with 2
meters and the DX and other fun stuff available through your
nearest 220 or 440 remote base system. You should ask around
your area before buying. Rarely are 2 meter repeaters set up
for such exotic remote base functions (to be legal they have to
be controlled via 220 MHZ or higher frequencies) but I know in
South Florida at least one system is set up so that users can
talk out on HF SSB with a 2 meter FM radio only, no UHF
required. I've talked to them several times with MY
handi-talkie using MY remote HF base system from here in NM.
Keep in mind, now, that depending on your license, you will
need to have a control operator on duty for you to legally talk
through a remote base from your VHF/UHF rig on a particular HF
frequency. You will not be able to just dial up 20 meters, for
example, unless you have a general or higher class license. A
properly licensed control op can dial it for you and let you
talk under his "remote supervision", so it isn't normally
something you can just do on the spur of the moment without
the proper license but it's still fun.... and gets even more
fun as you upgrade so you can also become a control op.
If you by chance happen to live in northern NM I'd be happy to
email you a list of our system's touchtone users commands.
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
HTTP://nis-www.lanl.gov/~jdport/

826. QRP Plus question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: martins@sltrib.com
Message-ID: <310eddff.0@news.sisna.com>
Source record: 107575

>>>>>>72 Dean

I too would be very interested to hear any comments about the QRP Plus.

Frank Martin

827. Does bubble bath ruin paper caps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4emhhj$c8s@peabody.colorado.edu>
Source record: 107643

I've never (intentionally!) washed out electronic equipment with soapy water, but the question whether this hoplessly ruins paper caps has arisen.

I say they're probably already ruined, even before getting washed! (Even if the thing they're in works just fine.)

I discovered two interesting things about paper caps. First, when posed with 30 volts, many had measurable leakage currents, implying leakage resistances in only the few hundred megohm range, making them totally unsuitable for some applications, and second, that some charged and discharged in a visco-elastic sort of way, in that the charging current only slowly went to zero with continued application of constant charging voltage, and then when the thing was disconnected from the charging voltage and shorted out, the voltage shot back up again in a rebound. The worst offenders were all paper caps, and some rebounded back up 7 or 8 volts when offered 30 volts and then shorted momentarily.

This isn't a hazard at the 30 volts I tested them at, but what about at the 400 or 600 volts they're rated for? They'd rebound some 100 volts - no good! I discarded them. Some of them rebounded back to 2 volts after being shorted for the second time, and were still at 2 V two or three days later.

Ceramic caps had no measurable leakage current by my simple VOM, and hardly 100 mV of rebound voltage at most. They're smaller too, and probably have lower ESR as well. 0.047 uF @ 2 kV discs are $0.15 each at the local store.

I see no need to worry about the detrimental effects of soap suds on paper caps; I'd worry about them as they are!

Bruce Tiemann
N6URH

828. Re: COIL WINDING PROGRAM (freeware Win95 only)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: opworld@worlnet.fr
Message-ID: <4ennab$ia8@aldebaran.sct.fr>
Source record: 107644

jenna.design@awinc.com wrote:

> Coil Winding Program for Windows95 CBVSR1.ZIP

Hi,
Look for same freeware but for windows 3.1 or DOS.
Any pointers ?

Have
a nice opworld@worldnet.fr
Day

829. Shielded Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4enu7k$gom@crash.microserve.net>
Source record: 107645

I'm working on a problem that requires small, shielded, PC-mount bypass caps. I need values around 0.1 and 0.05 uf and the capacitors need to be constructed in such a way that when the "negative" lead is grounded, the inner case of the cap will prevent the "hot" side from radiating.

Can someone tell me if any of the inexpensive monolithic or tantalum capacitors are constructed this way? If so, will 0.1 uf tantalums provide satisfactory bypassing at 9 MHz? Any suggestions for other (affordable) types that will do the job?

73,
Jack WB3U

830. Re: Swan XTAL Filter Impedance ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4enuf9$gom@crash.microserve.net>
Source record: 107646

dsnowden@ccd.harris.com (Doug Snowden) wrote:
>I found an old Swan xtal filter the other day. I'd like to play
>around with it in a receiver circuit. It is a 487-024 freq = 9001.65
>khz. I think I came from an old Swan Astro 100 transceiver. What is
>the in/out impedance ? Guess I could play until I got it matched if
>all else fails.

That's a good 8-pole, 2.4 KHz filter. It was used in quite a few
models of Swan and Swan-related gear, including the Astro 103 that
I own. I don't need a new filter at the moment, but could I convince
you not to play with that particular component? They're not made
anymore and someday, someone will probably have to trash their rig for
lack of a replacement.

On the other hand, if you're really determined to do this, send me
some e-mail. I'll outline the details of the circuitry surrounding
that filter in the 103. It will undoubtedly save you lots of cut and
try.

73,
Jack WB3U

831. Re: HELP Interference

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: jastorm@ix.netcom.com
Message-ID: <4emp65$kk2@cloner3.netcom.com>
Source record: 107647

georgef@postoffice.ptd.net (George) wrote:

>I'm trying to use my AEAfax to receive FAX/RTTY. But My computer
>generates too much interfercne. I know its not the
>monitor,mouse,keyboard,&modem. I've removed all and powered up CPU and
>still get noise. I've taken CPU to another room (on another electrical
>circuit) and still get a +20dB noise level from CPU. Now I'm on the
>second story of a townhouse and my radios are only grounded to the
>electrical system ground. I'm thinking of running a ground wire from
>second floor wind and driving a rod in the ground. Will this help? I
>know nothing about grounding.
>Tnx
>George

You might want to try the JPS ANC-4. Unlike other DSP's, it goes in
the antenna lead and is designed specifically for local noise.
According to what I've read in the newsgroups, it's remarkably
effective. It was tested in the latest issue of QST.

73, Jim WB6LWS

832. Re: WD-40 vice Contact/Tu

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4eo257$p3j@newsbf02.news.aol.com>
Source record: 107648

In article <2a6.8063.546@acenet.com>, brian.carling@acenet.com (Brian Carling) writes:

>I used WD-40 to fix my 1957 Chevrolet when the alternator went bad.

A long time ago I took a girl to the drive-in movies in my dad's 57 Ford.....

>I had been driving down the highway when the ignition light came on and

A few weeks later I developed a problem....

>smoke poured out of the hood. There was a very bad burning smell.

.....almost like you describe here......

>All I did was dip the alternator in WD40 and blowit out a few times and

.....I did something similar.....

>it was as good as new.

.....you said it. WD-40 fixes ANYTHING. It's just what the doctor ordered!

;-)

833. NEED HELP WITH HTX-202 AND ALINCO DJ-160 FINAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: Igor Sokolov <igor@sokol.pssr.e-burg.su>
Message-ID: <AAEt-xmOHE@sokol.pssr.e-burg.su>
Source record: 107649
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I wonder if someone can help me with data on SRFH1900 wich is a final
transistor in REALISTIC HTX-202. I need to find a substitute for that one.
Another problem is a final device in ALINCO DJ-160. It is marked as

M57796H
05SJ

What that one can be substituted with. What is the data for that one.
You see, knowing data for both I will probably be able to locate Russian
equivalent.
And finally does anybody know of www site or other type of server were one
can search for particular electronic part and retrive tech data or get
to know where that part can be obtained.

--
Best regards,
Igor Sokolov, UA9CDC , (N3TOD)
E-mail: igor@sokol.pssr.e-burg.su
Phone/Fax: 3432 229621

834. Re: WD-40 vice Contact/Tu

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: kb7et@usa.pipeline.com
Message-ID: <4embqd$e8s@news1.usa.pipeline.com>
Source record: 107650

On Jan 30, 1996 07:11:00 in article <Re: WD-40 vice Contact/Tu>,
'brian.carling@acenet.com (Brian Carling)' wrote:

>All I did was dip the alternator in WD40 and blowit out a few times and
>it was as good as new.

Where do you get it in liquid form? I've only
seen the spray. I understand if you soak yourself
in a bathtub full of it, it will cure arthritis.

835. Source of crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: Stan Jacox <stanj@dnai.com>
Message-ID: <4en0gj$la4@hilbert.dnai.com>
Source record: 107651

I'm in the process of refurbing a Motorola Micor T83RTA mobile rig after many years of not working on commercial gear and found that I don't have a source for xtals. Apparently the grinders I used to use aren't in business anymore.
Who still makes crystals for the KN1005 and KN1007 TCXOs? Looking through QST didn't reveal a single ad,

Stan Jacox KM6XZ
http://www.studio-maint.com/~stanj

836. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4en4u5$etm@newsbf02.news.aol.com>
Source record: 107652

In article <4eiks1$l4a@pacific.mps.ohio-state.edu>, James Garland <garland@ohstpy.mps.ohio-state.edu> writes:

>I've never had the nerve to try this technique. I just can't bring
>myself to dunk, say, my Central Electronics 100V in the bathtub and let
>it soak. I'd be interested in knowing others' experience with this
>cleaning method. Is it really necessary to remove the transformers? What
>happens to the cardboard sleeves of IF transformers? Does it hopeless
>ruin paper capacitors? Are there other precautions to take?
>
>Jim W8ZR

A bubble bath may be the only way to clean the signal up an old boatanchor! (Just kidding Jim, I couldn't resist)

Seriously. I use a quick soapy water bath, a water hose bath, then a distilled water bath, then I use an airhose to blow em out, then I let the rig dry under a heatlamp for a few days, and last I put a light coating of WD-40 in the right spots. I did that to a Ranger, DX-100 and an Apache.

My rigs now look very clean and still work, only the signals are dirty.

73 Tom

837. Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: z007298b@bcfreenet.seflin.lib.fl.us
Message-ID: <4emtge$t1g@bcfreenet.seflin.lib.fl.us>
Source record: 107653

Pardon my lack of stereo fundamentals.....

But does anyone know of a chip manufactured by Motorola, National, etc. that will take left and right stereo audio outputs (from say a C.D. player) and produce an RF carrier suitable for reception and demod. on any stereo receiver? If not a single chip, does anyone know of any articles written on how to build such a thing? I would think the hardest part would be generating the subcarrier (a PLL?), but I would like to see what other people have come up with.

Regards,

--

Eliot Fenton
z007298b@bcfreenet.seflin.lib.fl.us
Compuserve: 72633.3247@compuserve.com

838. RE: Dec Qex "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: ferraro@ix.netcom.com
Message-ID: <4eoi4n$kp7@cloner3.netcom.com>
Source record: 107654

Jay KI7RH wrote:

>Hi all, I just read my December QEX. Is anybody else out there
>bothered by whats happening at ARRL? The lead article sounded
>great "A Microprocessor Controlled Multiband Transceiver", but
>turned out to be of very, VERY limited value. I thought QEX was
>supposed to be an experimenters magazine - where people
>regularly build and modify equipment to try out new things.
>Just how does a description of building a bunch of kits and
>tying them together with a microprocessor controlled DDS board
>that has to be purchased from the author (or totally redesigned
>from the ground up) end up in QEX??

Jay: I kind of understand where you are coming from!! But I must say I enjoyed the article from the standpoint of that it got my "creative juices" flowing.....let me explain......

Over the last year, I have constructed an all band all mode dual conversion superhet of the w7ZOI original design...Very heavly modified by me to include diode switching of all filters and bandswitching electronically by pushing one button to sequence all bands and LED readouts of band position along with automatic sideband selection. Well , anyway my point is that truthfully I am an engineer wannabe that will never make the "total design from the beginning" engineer. But I feel I am 1 step above a techician !!!! And most important, I truly am having fun.

I have purchased the microprocessor kit mentioned in the article and look forward to adapting it to my homebrew receiver to replace the L/C vfo and provide digital readout of frequency and other goodies mentioned in the article.

Another thing that the article has done for me is that while waiting for the kit, I have been reading up on PLL and DDS so that when all is running well, I will have a good idea why....

well, that is "one reporters opinion" and I look forward to other responses to your message.

73's de Mike K6ZSR

839. PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4enu4k$gom@crash.microserve.net>
Source record: 107655

I have four identical PTO's in solid-state rigs that I've been trying to stabilize, with only limited success. Maybe someone with more experience in this area can help me with this.

First, the oscillator is a JFET in the usual Colpitts configuration, operating from 5.0-5.5 MHz. From the factory, the two feedback capacitors are each 91 pf silver micas. The inductor is paralleled with approximately 140 pf. The latter is composed of three separate disc capacitors, ranging from N220 to N330 types.

The problem I have with the PTO's is that they all drift upward as the temperature rises. Following a ten or fifteen minute warmup, I tracked the drift over a five or six hour period as the chassis of the rig(s) gradually warmed up. The first PTO (which probably had a bad component) would drift about 1.6 KHz. The second PTO drifted about 800 Hz, and the last two units both drifted about 300-400 Hz.

I decided to tackle the worst ones first, and I began by replacing the oscillator transistors with MPF102's. This helped considerably. Next, following many, many hours of trial and error, I ended up replacing the silver micas with 100 pf polystyrene capacitors, and the remaining three compensation capacitors also with polystyrene units.

Now the first two PTO's drift upward almost an identical amount, about 200-300 Hz during the same warmup period. This may not sound like much, but the problem is that when the rig is used to transmit, chassis temperature quickly rises another 10 or 15 degrees. This causes another drift to take place during the first hour or so of a QSO, and the drift amounts to approximately 200-300 Hz. This occurs in addition to the longer-term warmup drift, and it takes place no matter how long the rig is powered on prior to the QSO.

One of the things that seems odd about this has to do with the capacitors I tried. First, as I gradually replaced the N220 and N330 capacitors with polystyrene units, the upward drift diminished. This has made me think that the PTO's were, in fact, over-compensated. Now, it's my understanding that polystyrene capacitors also exhibit a negative temperature coefficient, and that the coefficient is not particularly well controlled. Mallory states pretty wide variations for their capacitors, ranging from about -50 ppm to about -175 ppm.

So, thinking that the PTO's were still over-compensated, I went back and replaced about 100 pf in one of them with NPO discs. However, rather than reducing the drift further, or causing a downward drift, this merely caused the initial extreme upward drift to return.

There's not much left for me to do, other than trying to find some type of linear, positive-coefficient capacitor. Mallory does manufacturer them (disc type SL), but they're apparently difficult to come by. Also, I've already spent a considerable sum on polystyrene capacitors and I'm reluctant to buy additional specialized capacitors after my results with the NPO's.

If anyone has any suggestions or can point out an error in my thinking on this work, I would certainly appreciate it.

73,
Jack WB3U

840. Re: COIL WINDING PROGRAM (freeware Win95 only)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: jenna.design@awinc.com
Message-ID: <4eo8cn$ofj@kryten.awinc.com>
Source record: 107656

In article <4ennab$ia8@aldebaran.sct.fr>, opworld@worlnet.fr says...
>
>jenna.design@awinc.com wrote:
>
>> Coil Winding Program for Windows95 CBVSR1.ZIP
>
>Hi,
>Look for same freeware but for windows 3.1 or DOS.
>Any pointers ?
>
>Have
>a nice opworld@worldnet.fr
>Day
>
CBVSR1 was only done for Win 95 only as we only do 32-bit
programming now.
However, we released another 16-bit app called QRP HomeBuilder that runs on
Windows 3.1 in the spring of 1995.
QRPHB1 is exclusively for homebrewers and would be of no use to
"non-building" HAMS. It is freeware.

same sites (SimTel) - ftp.coast.net or oak.oakland.edu etc
path = Simtel/win3/hamradio/qrphb1.zip

This app is rather banal looking. It has no toolbar, statusbar or fancy graphics,
but we have had a lot of good comments regarding it's code.
It has a module called CoilBuilder, which is the father to the new 32-bit
coil program we just released.

NOTES FOR QRP HOMEBUILDER1:

There is a "hidden" bitmap schematic. Access it by clicking on the picture of the 3 element
low-pass filter in the SYSTEM Menu. This is a previously unpublished schematic given to
us by Wes HayWard.

Many users have e-mailed us , stating they want to to PRINT results screens.
Since QRPHB1 has no printing capabilities, you have to do it in a round about method.

<< METHOD >>
When you have a results screen displayed press the ALT and the PRINTSCREEN keys
simultaneously. This will capture the screen to the Windows Clipboard.
Exit or minimize QRP HomeBuilder.

Now, open the Windows PaintBrush program and from the Menu select EDIT and then PASTE.
You should have a bitmapped copy of your results screen present.
Then select the PRINT menu item. After printing, delete or do-not-save the bmp image.

Although this method is crude, it does work. If you have a third party screen-capture program you can always use it, otherwise the method described works fine.

There is a statement in QRPHB1 stating we will not post release notices of our QRP HomeBuilder series in the UseNet Newsgroups.
We thought about it and have "appended our policy" . We will only post FREEWARE program releases to the News Groups. It is our firm's belief that commercial interests of any nature for financial gain do not belong in the UseNet Newsgroups.

We presently, have no connection to the Amateur Radio industry whatsoever. The QRP HomeBuilder releases are released as freeware to promote electronics as a hobby and to give us something "fun" to work on; that is our reward.

Thanks Rod and Todly
Jenna Design

841. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960131152502.27313D-100000@biggulp.callamer.com>
Source record: 107657

Eliot, there was an article in Radio Electronics some fifteen years ago titled something like "An FM Stereo Signal Generator" It used three or so common chips and a 19 KHz oscillator, which of course, was doubled and run through a 1596 balanced modulator to form the left minus right 38 KHz signal. I wish I could be more specific but that is a start, even if complete modulator chips are not available. Cliff Buttschardt W6HDO

On 31 Jan 1996, Eliot Fenton wrote:

> Pardon my lack of stereo fundamentals.....
>
> But does anyone know of a chip manufactured by Motorola, National, etc.
> that will take left and right stereo audio outputs (from say a C.D.
> player) and produce an RF carrier suitable for reception and demod. on any
> stereo receiver? If not a single chip, does anyone know of any articles
> written on how to build such a thing? I would think the hardest part
> would be generating the subcarrier (a PLL?), but I would like to see what
> other people have come up with.
>
> Regards,
>
> --
>
> Eliot Fenton
> z007298b@bcfreenet.seflin.lib.fl.us
> Compuserve: 72633.3247@compuserve.com
>
>
>

842. Re: Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <b2vGUCAWFyDxEwIz@ifwtech.demon.co.uk>
Source record: 107658
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <n7ws.49.0030D34C@azstarnet.com>, Wes Stewart wrote:
>In article <4elo7q$7ih@hobbes.cc.uga.edu> ignacy@num.ads.uga.edu (Ignacy
>Misztal) writes:
>

>>The second filter eliminates noise from the other sideband (thus
>>the 3db improvement) and eliminates the hiss. One can see a diffrence
>>it makes when one compares CW reception with 1st IF with 2nd IF
>>filters. Disregarding differences in slopes, the 2nd IF filter cuts
>>the hiss and makes the signal sound more "professional". One can have
>>a similar effect with a DSP, but good DSPs are not cheaper than
>>the 2nd IF filter and the 3db advanatage is lost.

The 3dB advantage isd in *IF* signal-to-noise ratio only - but the IF
noise should always be overridden by noise received from the antenna and
further up the RX chain. Unless the product detector is being overloaded
by broadband IF noise, you probably wouldn't hear the difference.

Wes again: *WARNING - TOPIC DRIFT :-)

>As to audio DSP, I must confess to being underwhelmed with my DSP-9. I
>consistently find that I'm using the 1.8 KHz BW even on EME strength CW. A
>trained ear is still a lot better (IMHO) than a box full of electronics. In
>the absence of QRM, I just don't see the necessity for "brick-wall" filters. A
>couple of synchronously-tuned passive LC circuits and a good pair of hi-fi
>phones work fine. No power supply, no hum, no hiss, no crossover distortion,
>no cost:-)

I love my DSP-9+ for EME (same filters as the DSP-9). Like Wes, I don't
find the brick-wall characteristic very useful when the application is
detecting weak signals rather than rejecting QRM. But the suppression of
noise on unwanted frequencies away from the signal tends to aid this
pair of trained ears. By concentrating harder I could probably switch
out the DSP filter and continue to copy in 1.8kHz, but it would break my
brain to do that for a whole pass of the moon.

Different folks, different filters - always has been.

By the way, in the latest 432 and Above EME newsletter, HB9BBD gives a
good preliminary report for the TS-870 on very weak signals.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

843. trx designs (vac tube or transistor) help / beginner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: cgfrj@bgu.edu
Message-ID: <cgfrj.1.003B3FAA@bgu.edu>
Source record: 107659

I'm interested in possibly getting started in ham .. but I'd like to build my own set. Unfortunately, the only resources I've found to this regard is an old 20W transmitter vac tube design.. and a corresponding reciever. As I am looking up info.. I still have a few questions. Which is better a vac tube or transistor design for performance? Are there any more current designs for someone wanting to build their own system (simple at first, but able to be improved upon)?

844. need 10 to 150 khz FM demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: bmm1@freenet3.scri.fsu.edu
Message-ID: <4eomvr$mbf@freenet3.scri.fsu.edu>
Source record: 107660
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.scanner

Does anyone know of a chip that is used to demodulate multiplexed
signals such as FM sterio, secondary audio programming (SAP) on TV
sound and SCA on FM broadcast? I thought I could use my HF radio in FM
mode but I tried it and it didn't work. I finally figured out that
although the readout goes down to 0 hz it actually won't receive
anything less than 150 khz (the manual says so and I can hear the
relay click out.)
I'm sure there is a small, easy circuit to do this.

Bruce
--
Bruce M. Marshall bmm1@freenet.fsu.edu voice 423 481 0990 fax 423 481 8039

845. Re: Shielded Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: richg@raven.cybercomm.net
Message-ID: <4eo3t6$lue@crow.cybercomm.net>
Source record: 107661

WB3U (jackl@pinetree.microserve.com) wrote:
: I'm working on a problem that requires small, shielded, PC-mount
: bypass caps. I need values around 0.1 and 0.05 uf and the capacitors
: need to be constructed in such a way that when the "negative" lead is
: grounded, the inner case of the cap will prevent the "hot" side from
: radiating.

Feed-through caps fit your physical description, if you can tolerate have an end sticking through the other side of the board. I don't know about finding values as big as 0.1, though.

==========
Rich Griffiths richg@raven.cybercomm.net
Red Bank, New Jersey W2RG
Monmouth County FN20wi

846. Re: Ham-Homebrew Digest V96 #28

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: hts@thor.NET
Message-ID: <199601311937.NAA17917@odin.thor.net>
Source record: 107662

I want to make a homepage. I don't know how? Where can I read in the internet
that teach how to construct a home page?

KC5RBM.

847. Re: MIL VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-3101961842160001@amber1.ultranet.com>
Source record: 107663
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <4el6f3$r7h@aldebaran.sct.fr>, opworld@worlnet.fr wrote:

> Hi,
>
> I've heard that a compagny name Avantek (I'm not shure) make high
> quality VCO.
>
> Does anyone have a pointer of other usefull information ?
>
Avantek was acquired by Hewlett Packard. You can still get an catalog of
the Avantek products, but you'll have to contact HP for it.

Cheers,

Jon

848. Re: Shielded Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4eo9f6$sbn@newsbf02.news.aol.com>
Source record: 107664

In article <4enu7k$gom@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>I'm working on a problem that requires small, shielded, PC-mount
>bypass caps. I need values around 0.1 and 0.05 uf and the capacitors
>need to be constructed in such a way that when the "negative" lead is
>grounded, the inner case of the cap will prevent the "hot" side from
>radiating.
>
>Can someone tell me if any of the inexpensive monolithic or tantalum
>capacitors are constructed this way? If so, will 0.1 uf tantalums
>provide satisfactory bypassing at 9 MHz? Any suggestions for other
>(affordable) types that will do the job?
>
>73,
>Jack WB3U

Hi Jack,
The cap behaves like a very small transmission line. The "shield" does nothing if it doesn't carry an equal and opposite current. Since that an impossible accomplishment with a two terminal component, the only solution is to keep the leads and component very short.

The biggest reduction in stray coupling or radiation would come from using a densely packaged cap, like a multi-layer chip.

It makes almost no difference if the ground foil is on the outside or inside of the component. The exception would be if the reactance of the bypass capacitor is so high compared to the circuit impedance that almost no current flows through the cap. But in that case it would be a poor bypass anyway! Catch 22!

73 Tom

849. Re: CCITT fax via radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jan31.180748.25222@ke4zv.atl.ga.us>
Source record: 107665
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <310E56DF.3AC3@arrl.org> Jon Bloom <jbloom@arrl.org> writes:
>
>I'm looking for information from anyone who has developed a technique for
>transferring CCITT group-3 fax (i.e., standard office fax machine data) via
>radio. The "ideal" system would be one wherein a person at point A stuffs a
>document into a fax machine and it comes rolling out of a fax machine at
>point B, with the connection between the points being a radio link. But I'm
>interested in *any* techniques being used to achieve fax-via-radio. (Note:
>NOT WEFAX, APT or what-have-you. Just G3 fax!)

That's pretty trivial, Jon. All you need is a duplex radio connection
of telco grade. I've got that with the 902 MHz duplex radios I bought
off the power company when they switched to fiber. As far as the fax
is concerned, it's on a telephone line, and can train and transmit
just the way it does on the phone. The training cycle is the catch,
of course, and is why unmodified G3 fax can't be sent over ordinary
half-duplex channels.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

850. Re: Increasing the Power of the QST Antenna Tuner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: Bill Harwood <harwood@sirius.chinalake.navy.mil>
Message-ID: <DM29wt.L7L@avalon.chinalake.navy.mil>
Source record: 107666
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

That is the solution that SGC uses in the SGC-230. It has a metal box cover over the digital part and a groundplane in the circuit board.

Good Luck

```
\-----------------------------------------------------/
\ Bill Harwood U play it, I'll dance it /
\ AB6DY or /
\ I'll play it, U dance it /
\-----------------------------------------------/
```

851. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: drm6@psu.edu
Message-ID: <drm6.44.310FDB1D@psu.edu>
Source record: 107667

>But does anyone know of a chip manufactured by Motorola, National, etc.
>that will take left and right stereo audio outputs (from say a C.D.
>player) and produce an RF carrier suitable for reception and demod. on any
>stereo receiver? If not a single chip, does anyone know of any articles
>written on how to build such a thing? I would think the hardest part
>would be generating the subcarrier (a PLL?), but I would like to see what
>other people have come up with.

Greetings to Eliot and the group,

There is a chip that does what you want. Sorry, can't think of the
manufacturer. Ramsey sells two complete kits that uses it and does what you
want. I've seen the chip sold separatly but can't find a listing in a catalog
just for the chip at the present time.

Drew R. McGhee, KA3EJV
Altoona, PA

852. Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.823110319.11656.jwicklun@mycroftxxx.halcyon.com>
Source record: 107668

Hi all, I just read my December QEX. Is anybody else out there bothered by whats happening at ARRL? The lead article sounded great "A Microprocessor Controlled Multiband Transceiver", but turned out to be of very, VERY limited value. I thought QEX was supposed to be an experimenters magazine - where people regularly build and modify equipment to try out new things. Just how does a description of building a bunch of kits and tying them together with a microprocessor controlled DDS board that has to be purchased from the author (or totally redesigned from the ground up) end up in QEX??

I have no problem with the author selling kits, but only after fully disclosing the design. What if I want to add some features, or some additional control outputs to drive some different or additional RF boards? If this was just all about building kits, then I guess that Heath would still be in business. I subscribed to QEX for the exchange of ideas and more technical design information than appears in QST; but this article doesn't do it for me.

What do you think?? Either way, if you're a QEX subscriber, let QEX (at qex@arrl.org) or the editor Jon Bloom (at jbloom@arrl.org) know how you feel. Maybe I'm the only one upset by this diversion into product reviews.

73 de KI7RH (Jay Wicklund)

853. Re: Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: randg@sps.mot.com
Message-ID: <4eoq1i$c8t@newsgate.sps.mot.com>
Source record: 107669

Jay Wicklund made some comments about our article in QEX, as though there was no way of reproducing the design without purchasing one of our kits.

We included in the article 100% of the board schematics -- what we omitted was the 179 page software listing, which was obviously inappropriate anyway.

The design includes a DDS which is controlled either from a knob or a keypad, and includes switching control to support anyone's RF modules to make up to a 10-band radio.

The bulk of the article most certainly is NOT a "kit review" as characterized by KI7RH.

73,

Tim, WA5VQK and Rand, W1GXN

854. Re: 4CX1600B Amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: Tom Skelton <Tom.Skelton@ColumbiaSC.ATTGIS.COM>
Message-ID: <DM1uBL.4rM@ncrcae.ColumbiaSC.ATTGIS.COM>
Source record: 107670

>==========Mike Sims, 1/29/96==========
>
>Just about finished building a 4CX1600B, 80 - 10 meter amp.
>using the information from the
>Svetlana Specification Sheet and 4CX1600B amp. article of Marv
>Gonsior, W6FR, in the Winter 1995
>edition of Communications Quarterly. Looking for suggestions,
>warnings, cautions, etc. regarding
>what I should lookout for the first time the 4CX1600B amp. is
>turned on or before it is turned
>on.
>
> 73s,
> Mike Sims, K4GMH

I am just getting back to this newsgroup, and my intention was to post
a request for help on this same topic. Mike is ahead of me, but
I have the
parts to build a 4CX1600 amp except the actual tube and socket.
(Finding the
power transformer and the caps is the hardest part, I think.)
Anyhow, the
4CX1600 is a tetrode and the design specs I saw call for a
regulated screen
supply. It's not a big deal to design and include this but it
adds a little
more complication over the simple grounded grid design. But the
tetrode needs
to be cathode driven to prevent burning up the grids -- right?
Finally, did Alpha
do a simple GG design with the pair of 4CX800s in their Alpha 91 beta??

I could always fall back on the killer-demon tube: the 4-1000!
6kv and it flies!

Thanks in advance for advice from you true-blue design gurus.

(My only suggestion for Mike is to bring up the HV supply slowly
the first time you
turn it on, and if you have a big enuff variac that you can
leave in the line always
bring it up and down slowly.)

73, Tom WB4iUX
WB4iUX@AOL.COM

1996: It'll never be the same without Calvin and Hobbs.....

855. Re: wrinkle paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4eovge$n7m@usenet.continental.com>
Source record: 107671

>One caution, for some reason only black gives a good wrinkle finish.
>If you want a different color, get the wrinkle with black, and then
>top that with whatever color you want after the black dries and >wrinkles.

Thanks for the advice. I'll try it this weekend on an old Vibroplex
Champion base.

-Paul, N9AZ

856. Wilderness Radio QRP transceiver kit article in 73: missing address/phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-3101961918350001@burdick.interval.com>
Source record: 107672
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

73 published Jeff Gold's nicely-written product review on the NorCal 40A, but they left out the address and phone for Wilderness Radio. Here it is. Also note that the kits are no longer available from NorCal (the Northern California QRP Club). The kit as shown is available only from Wilderness.

Wilderness Radio
P.O. Box 734
Los Altos, CA 94023-0734
U.S.A.

(415) 494-3806

857. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-01-31 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDM42v7.K6M@netcom.com>
Source record: 107673

in <4emtge$t1g@bcfreenet.seflin.lib.fl.us>, Eliot Fenton wrote:
: But does anyone know of a chip manufactured by Motorola, National, etc.
: that will take left and right stereo audio outputs (from say a C.D.
: player) and produce an RF carrier suitable for reception and demod. on any
: stereo receiver?

A Japanese company has a single chip stereo transmitter, the Rohm Ba1404.

For an example, see a construction article in Radio-Electronics magazine for July 1992 or one for the Ramsey FM-10 in Popular Electronics (date unknown, but more recent). A scanned version of the spec sheet is somewhere in ftp://dg-rtp.dg.com/fm10/archives/ .

Unless you want to deal with a fairly quirky chip, you can get a preassembled stereo to RF converter at your local discount store for about $20 in the form of the FX Wave Fx-100. Hanging on the pegboard in the audio department. (I use one hooked to my VCR for wireless headphones.) It's just LC tuned, but seems stable enough. The main chip has the label sanded off. It doesn't have enough pins to be a BA1404, but I suspect it is a related chip. I hear Rohm makes a stero multiplexer chip without the transmitter section. The FX wave has a seperate 4 transistor RF section.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

858. Printer generated transparency problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: JLAN98A@prodigy.com
Message-ID: <4ep7jg$326k@useneta1.news.prodigy.com>
Source record: 107576

I am experiecing difficulty in getting a good solid blackening in the solid trace areas of PCB layout transparencies on my Okidata OL400 printer.It has been suggested to me that this might be a electro static induced problem . Anybody have any good ideas?

73 Ken W6GHV

859. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Eliot Fenton <ics@alice.icanect.net>
Message-ID: <31108A0B.4DAE@alice.icanect.net>
Source record: 107577

> There is a chip that does what you want. Sorry, can't think of the
> manufacturer. Ramsey sells two complete kits that uses it and does what you
> want. I've seen the chip sold separatly but can't find a listing in a catalog
> just for the chip at the present time.

Drew:

Thanks for the reply. I've heard of Ramsey, but have never bought from them. Do you have a phone number so I contact them?

Eliot Fenton
ics@icanect.net

860. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.50.00283B82@azstarnet.com>
Source record: 107578

In article <4eqdr2$pjm@cc.iu.net> blombard@bb.iu.net (Bob Lombardi) writes:
>From: blombard@bb.iu.net (Bob Lombardi)
>Subject: Re: PTO Temperature Compensation
>Date: 1 Feb 1996 13:05:38 GMT

>WB3U (jackl@pinetree.microserve.com) wrote:
>: I have four identical PTO's in solid-state rigs that I've been trying
>: to stabilize, with only limited success. Maybe someone with more
>: experience in this area can help me with this.

[snip]

>Perhaps someone in the crystal business will tell you how they make a
>TCXO, but the basic process is to match the exact crystal variation
>over temp with an inverse variation in the circuit. You can tune a
>varactor across the crystal with thermistors. The same approach may
>work for you. You have to test the oscillator over temperature and
>find out how much it drifts, then figure how much C you need to pull
>it in, what voltage to drop in thermistors, etc., etc.. To do this
>productively, like at a crystal oscillator house, you need to have
>experience, good measurement equipment and probably curve-fitting
>software (I'd guess).

Jack a good reference on this is: Crystal Oscillator Design and Temperature
Compensation" by M. E. Frerking.

The subject is also mentioned in: "Single Sideband Systems & Circuits", Bill
Sabin, Editor.

73, Wes -- N7WS

861. NEED CENTRAL ELECTRONICS 20-A COMPONENTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Gary Davidson <reporter@sparc1.castles.com>
Message-ID: <4ep6eu$lrc@miwok.nbn.com>
Source record: 107579

I need the VFO for a CE 20-a, a very professional grade, 10 meter capable unit, please, and also the plug-in antitrip module - sure would like to get this rig back on the air!

Gary, KJ6Q, KJ6Q@WA6HAM (packet) design@thereporter.com, or 707-448-5221. Vacaville, ca.

862. Re: Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb1.150410.29113@ke4zv.atl.ga.us>
Source record: 107580

In article <NEWTNews.823110319.11656.jwicklun@mycroftxxx.halcyon.com> Jay Wicklund
<jwicklun@mail.halcyon.com> writes:
>Hi all, I just read my December QEX. Is anybody else out there
>bothered by whats happening at ARRL? The lead article sounded
>great "A Microprocessor Controlled Multiband Transceiver", but
>turned out to be of very, VERY limited value. I thought QEX was
>supposed to be an experimenters magazine - where people
>regularly build and modify equipment to try out new things.
>Just how does a description of building a bunch of kits and
>tying them together with a microprocessor controlled DDS board
>that has to be purchased from the author (or totally redesigned
>from the ground up) end up in QEX??
>
>I have no problem with the author selling kits, but only after
>fully disclosing the design. What if I want to add some
>features, or some additional control outputs to drive some
>different or additional RF boards? If this was just all about
>building kits, then I guess that Heath would still be in
>business. I subscribed to QEX for the exchange of ideas and
>more technical design information than appears in QST; but this
>article doesn't do it for me.
>
>What do you think?? Either way, if you're a QEX subscriber, let
>QEX (at qex@arrl.org) or the editor Jon Bloom (at
>jbloom@arrl.org) know how you feel. Maybe I'm the only one
>upset by this diversion into product reviews.

Perhaps surprisingly, given the howl I let out about the autotuner,
this article doesn't bother me. The main focus is on system integration.
There really aren't any novel features implemented by the uP, and the
code in it would only be of value if you were trying to integrate the
exact same set of RF kit modules the authors were using. The authors
do give the important algorithms used, as flow diagrams, and that's
sufficient since the detail implementation would vary depending on
what RF modules you used anyway.

What's important about this article is the *concept* employed to
integrate the complete transceiver, and that's adequately covered
in the article. That's a very different story from the autotuner
article where it was the algorithm that was novel, and hidden from
us. The L network wasn't anything special. In this case, the control
panel code isn't novel. I'd suggest that anyone who could understand
the source could implement his own version without it. The only novelty
here is the DDS, and that's been well covered recently in other articles.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

863. Re: MIL VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: opworld@worlnet.fr
Message-ID: <4eqc3a$9h7@aldebaran.sct.fr>
Source record: 107581
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Hi Jon

> Avantek was acquired by Hewlett Packard. You can still get an catalog of
> the Avantek products, but you'll have to contact HP for it.

Thanks for answer. I will try to get the right entry to HP because
when I called HP, here in France, I found only informatic division and
they don't know other division !

Have
a nice opworld@worldnet.fr
Day

864. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: blombard@bb.iu.net
Message-ID: <4eqdr2$pjm@cc.iu.net>
Source record: 107582

WB3U (jackl@pinetree.microserve.com) wrote:
: I have four identical PTO's in solid-state rigs that I've been trying
: to stabilize, with only limited success. Maybe someone with more
: experience in this area can help me with this.

I have some experience with this, so perhaps I can help a little.

: First, the oscillator is a JFET in the usual Colpitts configuration,
: operating from 5.0-5.5 MHz. From the factory, the two feedback
: capacitors are each 91 pf silver micas. The inductor is paralleled
: with approximately 140 pf. The latter is composed of three separate
: disc capacitors, ranging from N220 to N330 types.

much description deleted...

: If anyone has any suggestions or can point out an error in my
: thinking on this work, I would certainly appreciate it.

: 73,
: Jack WB3U

Your thinking is okay, it's just a very thorny problem to solve in
real life. Think of it in terms of PPM: at 5 MHz, a cheap crystal
oscillator (not compensated) will drift 250 to 500 Hz over temp. To
get better than that you need better temperature compensation.

What you need to do is find out what is drifting, how much, and correct
it (like you didn't know that, right ;-). That may mean that you
would have to measure specific temperature drifts on caps, and pick
particular caps. That may mean, say, getting several 390 pf, N330 caps
and picking the one with the exact drift you need. It's tedious, and
expensive. I've only been marginally involved with this sort of thing,
but I know it takes time.

Ideally, if everything had a zero TC, nothing would change, and I like
the idea of NPO (COG) caps everywhere. But if the inductor core is
what's drifting, your problem would get worse (I'll bet it is the
inductor).

Perhaps someone in the crystal business will tell you how they make a
TCXO, but the basic process is to match the exact crystal variation
over temp with an inverse variation in the circuit. You can tune a
varactor across the crystal with thermistors. The same approach may
work for you. You have to test the oscillator over temperature and
find out how much it drifts, then figure how much C you need to pull
it in, what voltage to drop in thermistors, etc., etc.. To do this
productively, like at a crystal oscillator house, you need to have

experience, good measurement equipment and probably curve-fitting software (I'd guess).

You could try a couple of other things they do in the crystal business to get around the problem. For example, if the oscillator drifts versus temperature, you can fix its temperature. Just make sure it is held higher than the level it will see during operation. (For example, if the circuit will see 130F, keep the oscillator at 140 or 150, just be sure to use some sort of thermostat). You can use resistors as the heating elements and wrap the whole thing in insulation. Another idea would be to lower the power output in the oscillator, to keep it cooler, and use an amplifier after it to get the signal back. If the problem is heat from elsewhere, though, this won't work.

Well, this is sort of vague, but I hope it helps.

73,
Bob

--
Bob Lombardi WB4EHS from Melbourne, FL >>>>> blombard@iu.net
The average male bicycle rider consumes 375 calories to ride 10 miles. The average car uses 1/2 gallon of gasoline, or 18,600 calories, to go the same distance. -- from Bicycle Guide magazine, July 1994

865. Re: 4CX1600B Amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4eqpvm$m40@newsbf02.news.aol.com>
Source record: 107583

I have some questions. Does this circuit contain screen protection and voltage regulation in the screen and control grid?

73 Tom

866. Re: WD-40 vice Contact/Tu

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: n4lq@iglou.com
Message-ID: <DM3M53.Ayy@iglou.com>
Source record: 107584

Will it cure baldness?

:
: Where do you get it in liquid form? I've only
: seen the spray. I understand if you soak yourself
: in a bathtub full of it, it will cure arthritis.

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

867. Re: Kit HF receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: n4lq@iglou.com
Message-ID: <DM3M31.Aq9@iglou.com>
Source record: 107585

TenTec has just released several nice receiver kits at very low prices.
Call them for a flyer.

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

868. Re: Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: gcouger@master.ceat.okstate.edu
Message-ID: <4eqln5$nd6@news.cis.okstate.edu>
Source record: 107586

In article <4eoq1i$c8t@newsgate.sps.mot.com>,
Rand Gray <randg@sps.mot.com> wrote:
>Jay Wicklund made some comments about our article in QEX, as though
>there was no way of reproducing the design without purchasing one
>of our kits.
>
>We included in the article 100% of the board schematics -- what we
>omitted was the 179 page software listing, which was obviously
>inappropriate anyway.
>
>The design includes a DDS which is controlled either from a knob
>or a keypad, and includes switching control to support anyone's
>RF modules to make up to a 10-band radio.
>
>The bulk of the article most certainly is NOT a "kit review" as
>characterized by KI7RH.
>
I found the artical very informative. It shows the way a micro is intergrated
into a xciver. It provides the info nessary for me to build a radio not only
with the kit parts but also intergrating other stuff. I am not a fair test
as I write software for a living, but it was clear to me how to do it.

If I choose to build one I would like to look at the source code if available
to see how they did. I would do it to suit me in the end anyway.

Keep up this kind of artical.

Gordon AB5DG

Gordon Couger
Biosystems & Agricultural Engineering. 114 AG Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405 744 8392 day 625-2855 evenings

869. WTB: lafayette, allied electronics & heathkit catalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: rew5808 <bwilder@reallink.com>
Message-ID: <4epi45$d2r@ferengi.prismnet.com>
Source record: 107587
Cross-posted to:
rec.radio.shortwave,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I am looking for some lafayette radio, allied electronics, and heathkit
catalogs from 1957 thru 1965.
would appreciate any help and/or any leads you can give me.

thanks
bobby wb5wur

870. rf circuit simulation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: spearce@ccu1.auckland.ac.nz
Message-ID: <4eq290$r3a@thebes.waikato.ac.nz>
Source record: 107588

Are the spice rf models available in the public domain What else is available freely for simulation of rf circuit designs?

Thanks

871. wtb: allied, lafayette, heathkit catalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: rew5808 <bwilder@reallink.com>
Message-ID: <4epla3$dd5@ferengi.prismnet.com>
Source record: 107589
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

i would appreciate any help i can get in locating some spare lafayette radio/electronics, heathkit, or allied electronics catalogs from 1957 thru 1965.

thanks
bobby wb5wur

872. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: mai@iquest.net
Message-ID: <DM445q.FG1@iquest.net>
Source record: 107590

w8jitom@aol.com (W8JI Tom) wrote:
>In article <4eiks1$l4a@pacific.mps.ohio-state.edu>, James Garland
><garland@ohstpy.mps.ohio-state.edu> writes:
>
>>I've never had the nerve to try this technique. I just can't bring
>>myself to dunk, say, my Central Electronics 100V in the bathtub and let
>>it soak. I'd be interested in knowing others' experience with this
>>cleaning method. Is it really necessary to remove the transformers? What
>>happens to the cardboard sleeves of IF transformers? Does it hopeless
>>ruin paper capacitors? Are there other precautions to take?
>>
>>Jim W8ZR
>
>A bubble bath may be the only way to clean the signal up an old
>boatanchor! (Just kidding Jim, I couldn't resist)
>
>Seriously. I use a quick soapy water bath, a water hose bath, then a
>distilled water bath, then I use an airhose to blow em out, then I let the
>rig dry under a heatlamp for a few days, and last I put a light coating of
>WD-40 in the right spots. I did that to a Ranger, DX-100 and an Apache.
>
>My rigs now look very clean and still work, only the signals are dirty.
>
>73 Tom
>
>
This is the basics to what Tektronix and HP equipment went through.
Couple added steps included baking in an oven at 135 degrees for
about 30-60 min. after the bath. The cleanser used was called 'Swipe",
and the currently marketed 'SimpleGreen' appears to be same stuff.
Of course all knobs and related parts should be removed and bathed
using an ultrasonic cleaner for best results - gets ALL the dirt out. You
may need to remark pointer 'dots' or 'lines' - tire markers work great,
and available in various colors needed (white, red, yellow, etc). One
point to watch - meters! Some aren't sealed and bathing is a problem
for them. Worth taking out and cleaning on the bench with a brush.
Also, keep a hair dryer handy - after blowing excessive water off, hit
with the hair dryer before baking. A lot of test gear valued well above
any ham gear received this treatment and was resold as 'reconditioned'.
Good luck.

Patrick WB9IQI

873. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960201174257.29758D-100000@biggulp.callamer.com>
Source record: 107591

Jack, in the your PTO temperature compensation problem there is something that is fundamentally wrong in that these units never have need for positive temperature compensation. In fact, if you were to remove the case from most any Collins PTO, there would be N100, N1500 and even N2200 ppm caps there! I would first see that there is no mechanical binding that would cause such problems. Secondly, I suspect that you are suffering from what I call "thermal delay"---that is the ability of the temperature compensating capactior to be in the right physical position to make timely change. This becomes especially critical in units where transmitting heat flows rapidly to the PTO. The only solution is to place the capacitor farther or closer to the heat source experimentally. With your call I suspect you have been around the barn as many times as I, so I will limit comment to this since it might well be a refresher!
73 Cliff Buttschardt W6HDO Morro Bay, Calif

874. Re: WTB: lafayette, allied electronics & heathkit catalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: rew5808 <bwilder@reallink.com>
Message-ID: <4epkdh$d8v@ferengi.prismnet.com>
Source record: 107592
Cross-posted to: rec.radio.amateur.swap,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I am looking for some lafayette radio, allied electronics, and heathkit
catalogs from 1957 thru 1965.
would appreciate any help and/or any leads you can give me.

thanks
bobby wb5wur

875. Re: TA7204 audio amp chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823188902.23383@pinetree.microserve.com>
Source record: 107593

Jaggi@cvrc.med.upenn.edu (Jurg L. Jaggi) wrote:

>I recently got a Kyokuto FM144-10SXRII radio. Unfortunately, the audio
>amplifier chip is defective and needs to be replaced. It is labelled
>TA7204.

The TA7204 is a common audio amplifier IC used in many types of
Japanese audio equipment, particularly automobile stereos. The chip
is still available, listed for sale at $10.44 from MCM Electronics.
MCM has a $20.00 minimum order, but will ship smaller orders with a
$5.00 service fee. Their phone for orders is (800) 543-4330.

Alternately, you might also try a few local stereo repair shops to
see if any of them stock this part.

73,
Jack WB3U

876. Re: need 10 to 150 khz FM demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: schuster@panix.com
Message-ID: <4eqol1$2g1@panix3.panix.com>
Source record: 107594
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.scanner

In article <4eomvr$mbf@freenet3.scri.fsu.edu>,
Bruce M. Marshall <bmm1@freenet3.scri.fsu.edu> wrote:
>Does anyone know of a chip that is used to demodulate multiplexed
>signals such as FM sterio, secondary audio programming (SAP) on TV
>sound and SCA on FM broadcast? I thought I could use my HF radio in FM
>mode but I tried it and it didn't work. I finally figured out that
>although the readout goes down to 0 hz it actually won't receive
>anything less than 150 khz (the manual says so and I can hear the
>relay click out.)
>I'm sure there is a small, easy circuit to do this.

Get a VLF converter, such as the ones made by Datong or Palomar Engineers,
and put it in the antenna path.

--
Mike Schuster | schuster@panix.com | 70346.1745@CompuServe.COM
------------------- | schuster@shell.portal.com | schuster@mem.po.com

877. Re: Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: "Dana H. Myers" <Dana.Myers@West.Sun.Com>
Message-ID: <4er5m8$koq@abyss.West.Sun.COM>
Source record: 107595

randg@sps.mot.com (Rand Gray) wrote:
>Jay Wicklund made some comments about our article in QEX, as though
>there was no way of reproducing the design without purchasing one
>of our kits.
>
>We included in the article 100% of the board schematics -- what we
>omitted was the 179 page software listing, which was obviously
>inappropriate anyway.

Since a significant amount of the functionality of the project is
contained in that 179 page listing, why is it appropriate to
publish the schematics but not the firmware?

Is this firmware available in source form via SASE+diskette, or
via download?

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

878. free programs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: <>
Message-ID: <4ereiv$1vd@news.ios.com>
Source record: 107596

Hi,
I've put a few free programs out that might be of interest to experimenters. At this time they are on ftp.qrz.com. ant2.exe, coax2.exe, resist2.e and coil2.exe. They are all 32 bit OS/2 applications. They are simple graphic programs. and will run with Warp.

Teerev.zip which is a graphic EIRP calculator that'll run with Windows is on the ARRL BBS.

879. Re: 4CX1600B Amp.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Tom Pfaffenbach <tvpfaffe@mail.delcoelect.com>
Message-ID: <4eqj7f$98k@kocrsv08.delcoelect.com>
Source record: 107597

Be careful that you don't exceed the screen dissipation. You may want to practice tune-up at
reduced screen and plate voltage. Don't drop the plate voltage below that of the screen.
73 de J9JDU

880. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DM3vLw.Gsn@hpqmoea.sqf.hp.com>
Source record: 107598

WB3U (jackl@pinetree.microserve.com) wrote:
: I have four identical PTO's in solid-state rigs that I've been trying
: to stabilize, with only limited success. Maybe someone with more
: experience in this area can help me with this.

It's quite easy to have mechanical expansion effects spoil the
stability of a PTO. I've come across ones where it changed everytime I
touched them. Look critically at their mechanical design...

: I decided to tackle the worst ones first, and I began by replacing the
: oscillator transistors with MPF102's. This helped considerably.
: Next, following many, many hours of trial and error, I ended up
: replacing the silver micas with 100 pf polystyrene capacitors, and the
: remaining three compensation capacitors also with polystyrene units.

That sounds sensible: get rid of the compensation then use low tempco
components everywhere to minimise drift, finally compensate the remaining
drift.

: Now the first two PTO's drift upward almost an identical amount, about
: 200-300 Hz during the same warmup period. This may not sound like
: much, but the problem is that when the rig is used to transmit,
: chassis temperature quickly rises another 10 or 15 degrees. This
: causes another drift to take place during the first hour or so of a
: QSO, and the drift amounts to approximately 200-300 Hz. This occurs
: in addition to the longer-term warmup drift, and it takes place no
: matter how long the rig is powered on prior to the QSO.

Note that polystyrene capacitors should never be taken above 70 C as
they undergo a permanent value change

: There's not much left for me to do, other than trying to find some
: type of linear, positive-coefficient capacitor. Mallory does
: manufacturer them (disc type SL), but they're apparently difficult to
: come by. Also, I've already spent a considerable sum on polystyrene
: capacitors and I'm reluctant to buy additional specialized capacitors
: after my results with the NPO's.

You can go through a lot of components, also virtually nobody
nowadays uses controlled (non-zero) tempco capacitors, so finding them is
now virtually impossible. Temp compensated ctrstal osc manufacturers use
thermistors and varactor diodes.

Oxley used to make variable tempco capacitors for osc compensation,
but these are also like hen's teeth. I put a circuit for my favourite
easy-to-adjust thermistor based compensator in the osc chapter in the
1995 and 1996 ARRL handbooks.

Don't try compensation until you've weeded out any poor components, remember that if you have signifiacnt temp changes, you need to make your compensator and the thing that's being compensated heat and cool at the same rates or else you get drift during temp CHANGE and recovery after the change has stopped.

Cheers
David

881. Re: Ham-Homebrew Digest V96 #28

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: hts@thor.NET
Message-ID: <199602011754.LAA09306@odin.thor.net>
Source record: 107599

<---- Begin Forwarded Message ---->
From: hts@thor.net
Subject: Re: Ham-Homebrew Digest V96 #28
To: Ham-Homebrew@UCSD.EDU

I want to make a homepage. I don't know how? Where can I read in the internet
that teach how to construct a home page?

KC5RBM.
<---- End Forwarded Message ---->

882. TA7204 audio amp chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Jaggi@cvrc.med.upenn.edu
Message-ID: <4eqh0o$tg9@netnews.upenn.edu>
Source record: 107600

Hi folks,

I recently got a Kyokuto FM144-10SXRII radio. Unfortunately, the audio amplifier chip is defective and needs to be replaced. It is labelled TA7204. Are these chips (still) available? If not, what would be a good choice for a replacement. Thanks for any help and/or advice to get this radio going again.

73s,

Jurg KB2WKX

883. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DM3uJs.G1u@hpqmoea.sqf.hp.com>
Source record: 107601

Roy Lewallen (w7el@teleport.com) wrote:

: It's one of the Great Inventions of
: the 20th Century (along with latex paint and plastic drinking
: straws. .)

WD40, latex paint, and plastic drinking straws ?

Roy, *WHAT* were you making?

Cheers,
David GM4ZNX

G3RJV tells me you're intending making a foray to this side of the
ocean.....

884. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4er0md$bi8@usenet.continental.com>
Source record: 107602

My favorite cleaner/lubricant for potentiometers and switch contacts was manufactured by Daven. I believe that Daven and Shallco were the sole suppliers of ladder-type audio attenuators to the broadcast mixing console industry (RCA, Gates, Collins, McMartin, etc.).

I still have an original container of "Daven Oil" for this purpose and use it sparingly of course. It's got to last me a lifetime! Anyone else remember using Daven Oil?

-Paul, N9AZ

885. Wanted: 10 Ghz Door Opener Sources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Neil Gjere <ngjere@skypoint.com>
Message-ID: <311171D7.515D@skypoint.com>
Source record: 107603

I'm looking for a source of the 10 Ghz Gunns used in Door Openers.
I'm specifically looking for Solfans or Other cavities that include a
Varactor as well as the Gunn diode in the housing.

I have several cavities that have just the Gunns in them, and would like
to experiment with other designs.

73s,

Neil N0PFZ

886. Re: Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Mark Mansfield <markman@UTM.Edu>
Message-ID: <31117FCF.141@UTM.Edu>
Source record: 107604
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Thanks for everyone's response. I'm learning and hearing that maybe the second filter is not the greatest idea but does offer some improvement? Let me ask the group, given the choice between a second IF filter and a DSP, all things considered, for only CW (weak signal work), which would you rather have or recommend? By asking the question, I've certainly gained some knowledge about the second filter, both pro and con. My primary goal is reception at LF with the emission CW (in a otherwise very noisy enviroment at best).
Mark

887. Re: Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DM3wu1.HG2@hpqmoea.sqf.hp.com>
Source record: 107605

Rand Gray (randg@sps.mot.com) wrote:

I've not got that QEX yet, though I think I tried one out on my spectrum analyser at the famous QRP vicarage (chez G3RJV), courtesy of Sheldon Hands. Sheldon had his proto transceiver along at the G-QRP convention in October, and George G3RJV had bought a DDS unit from Sheldon as a Christmas present, which those of us at the Christmas party had a good play with....

Very, very, nice indeed.

One comment; I found a fair amount of processor related noise on the DDS output co-ax coming down as (mostly) a common mode signal. Having a transformer couple at one end of this cable, or else a ferrite sleeve balun helps. This is nothing serious, it's roughly equal to the level of the quantisation noise spurs, and might as well be eliminated as it's easy enough to do....

: We included in the article 100% of the board schematics -- what we
: omitted was the 179 page software listing, which was obviously
: inappropriate anyway.

It'd make a mess of QEX :-)

It comes down to coercion. If you make the code available, a few people will program their own CPUs, but the majority will opt for buying PCBs and ready-blown chips.

If you don't make the code available, you get loads of people upset about the lack of a choice that they would probably not exercise anyway.

What you don't want to happen, of course, is for someone else to take your released code and go into business flogging programmed parts.

As the software content of constructional projects is going to continue to increase, I think some effort is needed to find a way round this quandry. There have been some articles in QST where the code has been kept private, and programmed parts made available only from the author. No, it's not a matter of review articles, but I don't see how they are not single-sourced kits with their *assembly instructions* published in a magazine.

I don't know of any solution to this problem, but I can see valid concerns for both sides.

Cheers
David GM4ZNX

888. Re: Printer generated transparency problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.823195021.8708.jwicklun@mycroftxxx.halcyon.com>
Source record: 107606

In article <4ep7jg$326k@useneta1.news.prodigy.com>,
<JLAN98A@prodigy.com> writes:

> I am experiecing difficulty in getting a good solid blackening
in the
> solid trace areas of PCB layout transparencies on my Okidata
OL400
> printer.It has been suggested to me that this might be a
electro static
> induced problem . Anybody have any good ideas?

>

> 73 Ken W6GHV
Hi Ken, well that is certainly an interesting problem. I hope
you get some help with it and post it to the group. I've had
the same problem with my HP Laserjet IIP using one of the films
sold for that purpose. I eventually gave up because the traces
always ended up badly pitted from all the little pinholes.

73 de KI7RH

889. 1996 ARRL November Sweepstakes Location Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: tracker@indirect.com
Message-ID: <tracker.44.001D0FC3@indirect.com>
Source record: 107607

Dan Rockhold, AB7AS and Mark Sunders, KJ7BS are looking for a location in North Dakota from which to operate AB7AS during the 1996 ARRL November Sweepstakes.

If you are not a contester or know someone who is not a contester, and would be agreeable to having 2 guest operators for the contest, please respond!

We are in the planning stages for this expedition, but we need to get a location very soon.

We are interested in the station equipment, especially the antennas. We can bring out own radios, power supplies, computers and interfaces, if necessary. However, we can not bring the antenna farm, too.

The station owner is more than welcome to join us in out endevor, or just watch, keep up awake, or what ever. WE WANT YOU TO BE PART OF OUR TEAM. Our goal is NOT to win the contest, but to have a good time and gain new operating skills. From Dan's home QTH in Phoenix, AZ, we got all but 7 sections in the 1995 November Sweepstakes. We do have a lot of fun with this hobby.

If you are interested, or know someone who is interested, please contact me or Dan at one of the addresses below.

Mark Saunders, KJ7BS
tracker@indirect.com
KJ7BS@KC7Y.AZ.USA.NOAM

Dan Rockhold, AB7AS
danr@goodnet.com

73 DE

Mark Saunders - KJ7BS
Glendale, AZ
PACKET: KJ7BS@N7MRP.AZ.USA.NOAM
INTERNET: tracker@indirect.com

890. Re: Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.823222427.15263.jwicklun@mycroftxxx.halcyon.com>
Source record: 107608

In article <4eoq1i$c8t@newsgate.sps.mot.com>,
<randg@sps.mot.com> writes:

> We included in the article 100% of the board schematics --
what we
> omitted was the 179 page software listing, which was obviously
> inappropriate anyway.
>
> The design includes a DDS which is controlled either from a
knob
> or a keypad, and includes switching control to support
anyone's
> RF modules to make up to a 10-band radio.
>
> The bulk of the article most certainly is NOT a "kit review"
as
>
> 73,
>
> Tim, WA5VQK and Rand, W1GXN
>
>
>
I Beg to differ, the schematic of a dedicated microprocessor is
trivial compared to the software that operates it. Even if you
don't feel that the entire program can be included, a complete
and detailed flow diagram can be. In addition there are sites
available including the arrl web page where additional files
can be downloaded for those that are interested.

73 de KI7RH Jay Wicklund

891. Re: Books for Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Russell Wells <rwells@awod.com>
Message-ID: <4ercuj$ek6@harbour.awod.com>
Source record: 107609

still got them let me know "Russ"

892. Re: 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <DM3E61.G7v@pe1chl.ampr.org>
Source record: 107610
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <dbaker.85.000A5CBA@mail.bcpl.lib.md.us> dbaker@mail.bcpl.lib.md.us (Donald I. Baker) writes:

>Technical solutions do exist. Using a "TX-ID" board, which uniquely
>fingerprints each transmitter and a PC one can "slectively" include or
>preclude individual users.

>The board was not meant for that purpose, but with just a little Basic of C
>codes, it workd just fine. It is especially easy if you have a single or
>limited number of receive site.

Is that using some public key encryption technique?
If not, what is preventing the malicious from cloning one of the
apparently valid codes?

Also, what is preventing the malicious user from just keying up over
other people's transmissions, thus rendering the repeater useless?

Rob
--
+-----------------------------------+---------------------------------------+
| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+---------------------------------------+

893. Re: 82 Repeater in Kansas City/Repeater Use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <DM3E28.G6G@pe1chl.ampr.org>
Source record: 107611
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <4elgqo$q73@nnrp1.news.primenet.com> sparkfel@primenet.com (Mark Fellhauer) writes:

>rob@pe1chl.ampr.org (Rob Janssen) wrote:

>>In <310B8C36.5D9@magnum.wpe.com> Eddie Caffray <caffraye@magnum.wpe.com> writes:

>>> On the 146.85 repeater here in Central NY we had trouble with one user also. He made it that
>>>no one would even monitor the reapeater anymore. The club voted to ban him and we did. The
>>>reapeater is a great place to be again.

>>How do you manage to effectively ban malicious users from a repeater?
>>Of course this problem is known all over the world, but at least over
>>here we have not yet found an effective way of stopping them. How do
>>you do that?

>Go to the Arizona Repeater Association's Home Page to see how this is
>done. It involves actively pursuing people who engage in such
>activity. The ARA, as a matter of routine, has an interference
>committee dedicated to tracking these people down.

>Despite reports to the contrary, the FCC does frown on this activity,
>and will enforce sanctions. Just ask the people here in Phoenix about
>that. An NAL, Notice of Apparant Liability, carries a stiff monetary
>fine, about $20,000 (US) worth and forfeiture of ALL broadcasting
>equipment and license(s).

Hmmm... it looks like HDTP (or equivalent of the FCC) does not put
out such drastic sanctions.
Normally one will lose the license for a year or so, and one could get
a fine of maybe $500.

This does not seem to stop some people... when you have been reading the
BBSes, you can see that the wellknown person that causes havoc on the
local packet network is still active. He is fully known by name,
ex-callsign, and address.
(he just uses callsigns of other people, mainly VERON officials, to
post offensive messages. he was also active on the phone repeater sometime,
transmitting over those same people, but I think he has lost interest in that)

Rob
--
+-----------------------------------+---------------------------------------+
| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |

```
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+---------------------------------------+
```

894. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-01 00:00:00 UTC
From: Eliot Fenton <ics@icanect.net>
Message-ID: <3111A631.1D1A@icanect.net>
Source record: 107612

Cliff:

I found an article in Radio Electronics from March 1988 that details the construction of a stereo xmitter. From what I've read in the alt.pirate.radio group, Rohm makes a chip (BA1404) that does much of the same thing and is available in an FM kit (FM10 or FM25) from Ramsey. Unfortunately, most of the responses indicated that the performance was lackluster. I downloaded the specs. on the chip, and it has decent channel separation (45 dB) so I don't understand why it should perform poorly.

--
Eliot Fenton
ics@icanect.net

895. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: mfischbe@fir.fbc.com
Message-ID: <4eu5rk$ouh@jusdnews.fir.fbc.com>
Source record: 107524

Robert Smits (rs@ham.island.net) wrote:
: James Garland <garland@ohstpy.mps.ohio-state.edu> writes:

: >The suggestion to soak dirty rigs in warm water
: >with bubble bath raises a question I've wondered about
: >for years.

: >I've never had the nerve to try this technique. I
: >just can't bring myself to dunk, say, my Central
: >Electronics 100V in the bathtub and let it soak.

: Never tried it with a scope. I have tried it with an
: 8 track tape player

: I'd only do this if there was no other way to clean
: it, and removing the transformers is certainly
: advisable on AC equipment.

I used to be responsible for computer access for about
80 users; there were several heavy smokers whose
terminal keyboards regularly gave up after three or
four months. On a "why not" basis, I tried washing a
couple of them in the dishwasher (without the dry
cycle, of course) and letting them air dry
completely.

Worked fine. I rinsed out all the smokers keyboards
every two months after that, and had no further problems.

mike

--
Mike Fischbein mfischbe@fir.fbc.com CS First Boston

Any opinions expressed are mine only, and not necessarily
those of any other entity. They may not even be mine.

896. Printer generated transparency problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: ericness@aol.com
Message-ID: <4euduu$38q@newsbf02.news.aol.com>
Source record: 107525

The problem with print density within filled areas is a clasic problem with laser printers. The best solution is to use the transparancy material recommended by the printer manufacturer. They have put a lot of time into making sure that the printer and the media work together.

897. WTB/Trade: K102D, Schematics/Pods for Logic Analyzer, Biomation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: "Walt W.", dfheli@gramercy.ios.com
Message-ID: <4eso7b$qlf@news.ios.com>
Source record: 107526

Hello,

I have a Biomation/Gould K-105D Logic Analyzer.

I need schematics and pods/probes for the 'little beasty'
as Mr. Scott (Star Trek) would say.

Any info would really be appreciated!

If you have schematics and can not part with them,
make a photostat for me and send it COD for cost
of photostat and shipping?

Thank you.

Walt W.
dfheli@gramercy.ios.com
(818) 700-8915

898. Re: MIL VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4etf08$mg@hpscit.sc.hp.com>
Source record: 107527
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <4el6f3$r7h@aldebaran.sct.fr>, <opworld@worlnet.fr> wrote:
>Hi,
>
>I've heard that a compagny name Avantek (I'm not shure) make high
>quality VCO.
>a nice opworld@worldnet.fr

Avantek is now owned by the Hewlett-Packard Communications Components
Division 408-435-7400.

Rick Karlquist N6RK
HP Santa Clara Div.

899. controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Michael Haydon <mhaydon@olivet.edu>
Message-ID: <Pine.SOL.3.91.960202225545.8004B-100000@tiger.olivet.edu>
Source record: 107528

Read an article in april 1962 qst regarding controlled carrier amplitude modulation, YES A.M.!!!. anyone tried this technique? Article was on 40w mobile rig. am hoping to put together 300watt or so unit using a pair of microwave oven transformers, but am wondwering abt their audio freq. response.
any replies commenting on how much you hate am will be ignored.

900. If you have a 742

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: daniel.lacasse@com18.com
Message-ID: <RERAAMHO.CE42@com18.com>
Source record: 107529

If you have a 742, let me know... Daniel.Lacasse@com18.com

901. Re: 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: ddenter@bnr.ca
Message-ID: <4ete1q$b0o@bcarh8ab.bnr.ca>
Source record: 107530
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <DM3E61.G7v@pe1chl.ampr.org>,
rob@pe1chl.ampr.org (Rob Janssen) writes:
>In <dbaker.85.000A5CBA@mail.bcpl.lib.md.us> dbaker@mail.bcpl.lib.md.us (Donald I. Baker) writes:
>
>>Technical solutions do exist. Using a "TX-ID" board, which uniquely
>>fingerprints each transmitter and a PC one can "slectively" include or
>>preclude individual users.
>
>>The board was not meant for that purpose, but with just a little Basic of C
>>codes, it workd just fine. It is especially easy if you have a single or
>>limited number of receive site.
>
>Is that using some public key encryption technique?
>If not, what is preventing the malicious from cloning one of the
>apparently valid codes?
>

Every radio has a "unique" pattern when you key it (due to differences
in the components etc), this pattern can be used to identify a radio.
There is no encrypted signal or anything that fancy.

One of the repeaters that I used to monitor had a tx-id system on it,
if you ker-chunked the repeater more than 3 times in a 5-10 minute
period, it would lock you out for a couple of days. It was also used
to track stolen equipment (you had your tx "fingerprinted", then when
the tx got stolen, you just let one of the ops know and the repeater
would advise you when it heard that tx (if it heard it)). They, also,
could (and did) blacklist certain radios.

>Also, what is preventing the malicious user from just keying up over
>other people's transmissions, thus rendering the repeater useless?
>

This is one of the weaknesses of the system, another is changing the
rig, or swapping a couple of components in the tx (changing some of
the resistors/caps is usually enough).

If someone really wants to get around the system they will.

regards,
Dean.
--
Dean Denter work -> ddenter@bnr.ca

VA3CDD play -> ddenter@magi.com
[[[[[[[[[[[[[I speak only for myself]]]]]]]]]]]]]

902. Re: Wanted: 10 Ghz Door Opener Sources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4etk8h$7ku@nntp.Stanford.EDU>
Source record: 107531

In article <311171D7.515D@skypoint.com> Neil Gjere <ngjere@skypoint.com> writes:
>I'm looking for a source of the 10 Ghz Gunns used in Door Openers.
>I'm specifically looking for Solfans or Other cavities that include a
>Varactor as well as the Gunn diode in the housing.
>
>I have several cavities that have just the Gunns in them, and would like
>to experiment with other designs.
>
>73s,
>
>Neil N0PFZ

I don't think any of the modules you mention have varactor diodes in them.
Motion detectors, which are just simple doppler radar implementations,
don't need varactors and would just be more expensive. What you probably
want is a full blown Gunnplexer. Be prepared to pay the price!

Steve Muther (WF6R)

903. Interface information for LCD display

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: draagen@news.connectnet.com
Message-ID: <4etlph$qfo@news.connectnet.com>
Source record: 107532

Picked up an interesting item at the local "Industrial Liquidator's" yesterday, and I'm wondering if there's anyone out there who can help me learn to interface it.

It's a dot-matrix LCD display, 128x67 (I think, it's somewhere between 64 and 70). It has a board attached to the back that has three SMT ICs and one of those odd ribbon connectors like you find inside a PC keyboard, and also inside a lot of lap-tops. Two of the ICs are HD61202s, and one is an HD61203. The ribbon is twenty-conductor.

The board is silk-screened with the name "Solomon" and what looks to me like a part number "LM7310SGLU." The bin that the item was found in indicated that the display could 'do' grapics.

I'm planning on (eventually) using this item to display information either for my packet/satellite station (still in the conceptual stage), or for my HF station (also still in the conceptual stage).

Any help anyone out there can offer would be most welcome.

--
San Diego District Youth Leader
David Negaard phone: (619) 761-0280
625 Shenandoah Avenue mailto:draagen@connectnet.com
San Marcos, CA 92069 http://www3.graceland.edu/~jrmj/negaard

904. Re: Need MC1648P I.C.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: michaelm@doruk.COM.TR
Message-ID: <9602011813.aa18084@bbs.doruk.com.tr>
Source record: 107533

On 30 Jan 1996 dsnowden@ccd.harris.com (Doug Snowden) wrote:

>I need 2 or more of these. Anyone know where I can get small quantities
>of these - some place without a minimum order?
>These are 16 pin DIP VCO s.

Hi, Doug -

I just got an Oct-Dec 1995 Jameco catalogue that lists the MC1648P
for $3.95 in quantity 1-9. Mail is a little slow getting here.

They are at 800-831-4242 voice or 800-237-6948 FAX. I don't think they
have a minimum order, but they want $5 'processing' for orders under
$25. That'd be no problem for me - looking through that catalogue
at all the parts I can't get here, I can run up a $25 order in about
thirty seconds flat ;-). BTW, the Jameco catalogue shows it as a
14 pin DIP.

Hope this helps - 73

de Mike (TA2ZG/W2AV) Remote Sysop TA2EM BBS - first PRBBS in Turkiye
Amateur Packet Radio: TA2ZG@TA2EM.#IST.TUR.EU
Internet (email only): Michael C. McHugh <MichaelM@doruk.com.tr>

905. Re: Source of crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Michael Haydon <mhaydon@olivet.edu>
Message-ID: <Pine.SOL.3.91.960202225002.8004A-100000@tiger.olivet.edu>
Source record: 107534

try 1-800-jan-xtal

On 31 Jan 1996, Stan Jacox wrote:

> I'm in the process of refurbing a Motorola Micor T83RTA mobile rig after
> many years of not working on commercial gear and found that I don't have a
> source for xtals. Apparently the grinders I used to use aren't in
> business anymore.
> Who still makes crystals for the KN1005 and KN1007 TCXOs? Looking through
> QST didn't reveal a single ad,
>
> Stan Jacox KM6XZ
> http://www.studio-maint.com/~stanj
>
>
>

906. Re: need 10 to 150 khz FM demodulator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDM7nxJ.L42@netcom.com>
Source record: 107535
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.scanner
Body handling: Inline uuencoded payload not displayed: scad.zip

in <4eomvr$mbf@freenet3.scri.fsu.edu>, Bruce M. Marshall wrote:
: Does anyone know of a chip that is used to demodulate multiplexed
: signals such as FM sterio, secondary audio programming (SAP) on TV
: sound and SCA on FM broadcast? I thought I could use my HF radio in FM
: mode but I tried it and it didn't work. I finally figured out that
: although the readout goes down to 0 hz it actually won't receive
: anything less than 150 khz (the manual says so and I can hear the
: relay click out.)
: I'm sure there is a small, easy circuit to do this.

Yup. Here's one I did a few years back. A one chip superhet SCA decoder.

Sat Oct 19 21:19:14 1991

In article <19OCT199116511767@utkvx4.utk.edu>, padawer@utkvx4.utk.edu (Padawer, Justin Randall) writes:
> In article <1991Oct19.194711.10535@cbnewsd.att.com>, polo@cbnewsd.att.com (mark.b.colosia) writes...
> >The subject line says it all. If any company sells an SCA adaptor or
> >SCA modification suitable for the pro2006 and/or if there are any
> >schematics available for constructing my own....{etc}
>
> I also would be very, very, very interested in seeing such a device!
> Can anyone help?

Ok, here's a repost of an SCA decoder. Before someone flames me
again for how complex the circuit is, 1) it isn't that complex, it
just looks that way because I dislike ASCII schematics and 2)
it receives all of the sca subcarriers from 62 to 95 Khz unlike one
based on a PLL with a fixed band pass circuit.

I recommend the Mc3361 as a replacement for the Mc3359 since the
Mc3361 has reached jellybean status and is available from three
suppliers (Motorola, Signetics, and Samsung). If you have enough
experience to build the circuit, you should be able to do the
substition using the suggested circuits in the Motorola (or Signetics
Linear - Communications) data books.

start of old posting ----

Here is a description of an SCA decoder using the Motorola Mc3359
Low Power Narrowband FM IF integrated circuit.

What is SCA

SCA or Subsidiary Communications Authorization is a method
of piggybacking signals on the normal audio programming from FM
Broadcast stations. Normally, the audio program occupies
the frequencies (after FM detection) from 0 to 15 Khz, there
is a 19 Khz pilot tone for stereo, then the Double Sideband
Supressed Carrier Stereo Difference signal takes 38 Khz +/- 15 Khz.
There is room above all that for other signals, using the range
60 to around 100 Khz. About the only limitation the FCC places
on the signal is how much the SCA signals modulate the main RF
carrier. Monophonic FM stations can use subcarriers in the range
of 20 to 100 Khz.

The usual audio signals are narrowband FM subcarriers with a
deviation of +/- 5 Khz. Common subcarrier frequencies are 67, 75, and
92 Khz.

There are also FSK and PSK data subcarriers for such uses as
stock market tickertapes and paging.

Content, Property Rights and ECPA

The signals can be used for whatever the station can
get money for. Talking newspapers for the blind, "Muzak", and
ethnic programming are signals I've monitored in my area.

These are not considered public broadcasts, and are covered
under some form of copyright or performance right. There is some
question that the Electronic Communications Privacy Act may disallow
listening to SCA signals. So don't try to go into competition with
the program providers, because they are the ones collecting the
subscription payments and the law is on their side.

Theory of Operation

The Mc3359 is one of several similar chips designed to
be the second IF for a narrowband FM receiver. It has a local
oscillator, a balanced mixer, a limiting IF amplifier, a FM
quadrature detector. Also included is an OP amp, and a squelch/
mute circuit which is not used. It is documented in Motorola's
Linear and Interface Integrated Circuits databook (DL128).
The specifications state that it produces a useful audio signal
with an input of around 10 microvolts. (Quite a change from
logic thresholds for this digital hacker.)

In this case, the signal is obtained from the output of the FM
detector inside a FM tuner. The input resistor (R1) is large to prevent
loading down the tuner's circuitry. Then a parallel LC tuned circuit
(C1,C2,L1) selects the desired subcarrier. The Local Osc. frequency
is set by L2, C4 and C5. This should be in the range of 388 (455 - 67)
Khz to 363 (455 - 92) Khz. The output of the mixer is filtered by a
three terminal ceramic bandpass filter, X1, (Not a ceramic resonater
used for oscillators). The limiter input (the output of the filter) is the
pin most senstive to spurious signal pickup. Keep that wire short.
The limiter output is processed through a quadrature detector, a balanced

mixer combined with a tuned circuit (L3 with an internal capacitor),
to produce the audio frequency signal, deemphasized and filtered by
R3, c11, c12, r4, etc.

Parts

First try the nearest Motorola distributor. I got the IC
at a local (Seattle area) retailer called Supertronix. (Sort of
a local "Radio Shack on Steroids" with a large selection
(206) 251-8484).
It's also in the NTE (and ECG) inventory as a NTE-860 ($$$ warning).
A Mc3357 is similar, but requires more external parts.

The inductors and bandpass filter are available from DIGI-KEY.
I haven't yet tried the Toko 154ANS-T1020Z for L2, should work. ;-)
The J. W. Miller 9001 is a big ugly wide range thing.

Adjustment

First, power the circuit up with no input signal, 4 to
9 volts, 3 mA. Hook the audio output up to your amplifer (about
.5 V signal). With a DC voltmeter or 'scope across C11, adjust L3
across it's range. At one end, the voltage should be about .5 V DC,
at the other end the voltage should be about 1 volt below the power
voltage. The transition should be abrupt. In the transition area,
adjust L3 so the voltage is halfway between the two extremes. This
should be the point for the loudest output of random noise.

If you have a frequency counter, scope, or LF receiver, look
at pin 2 and adjust L2 for the subcarrier you want to try first. 388
Khz is a good bet. With L3 adjusted, it really isn't that critical.

Hook the input to the FM detector output inside your FM receiver/tuner.
(You'll have to figure this out yourself), and tune to the station
with a SCA subcarrier. Quality of reception is important. If the
normal broadcast audio isn't clear, the subcarriers will be drown out
by noise and distortion. Tune L2, when a signal is there, you'll get
a quiet output, or hear the music.

Even with L1 misadjusted, the the chip is sensitive enough to pick the
subcarrier up. Adjust L1 for the lowest extraneous noise.
Alternatively, you can hook an audio oscillator to the input, instead of
the FM receiver, set to 67 (or whatever) Khz, .1 to .5 Volt, look at pin 18,
and tune L1 for a peak AC voltage.

Performance

There is still a lot of crud in the audio, but it's good enough to tell
you what's out there. (Most SCA signals use some sort of compression
to reduce noise, which this circuit doesn't do.)

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

What follows is 400some lines of wirewrap netlist output (ascii text).

[Inline uuencoded payload not displayed: scad.zip]

907. Re: NEED HELP WITH HTX-202 AND ALINCO DJ-160 FINAL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Don C Hamiel <hamiel>
Message-ID: <4esnbe$i8b@news.sdd.hp.com>
Source record: 107536
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Igor, the srfh transistor sounds like a Motorola part number. I know that they manufacture a line with the prefix of "SRF". If I can find a data book I will check it for you.

73 de Don N6NLX.

908. Re: Printer generated transparency problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4eskme$496@cloner4.netcom.com>
Source record: 107537

In <NEWTNews.823195021.8708.jwicklun@mycroftxxx.halcyon.com> Jay
Wicklund <jwicklun@mail.halcyon.com> writes:
>
>
>In article <4ep7jg$326k@useneta1.news.prodigy.com>,
><JLAN98A@prodigy.com> writes:
>
>> I am experiecing difficulty in getting a good solid blackening
>>in the solid trace areas of PCB layout transparencies on my Okidata
>>OL400 printer.It has been suggested to me that this might be a
>>electro static induced problem . Anybody have any good ideas?
>>
>>
>> 73 Ken W6GHV

>Hi Ken, well that is certainly an interesting problem. I hope
>you get some help with it and post it to the group. I've had
>the same problem with my HP Laserjet IIP using one of the films
>sold for that purpose. I eventually gave up because the traces
>always ended up badly pitted from all the little pinholes.
>
>73 de KI7RH
>

I use a Canon Bj-10 to print transparencies. The "trick" is to print
two of them. Place one over the other, making very sure they match
exactly, and tape them together. This should help alleviate the
problem, unless you've got major size holes in the traces.

John
KE6TGN

909. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Joerg Hedtmann <Joerg.Hedtmann@subseaoffshore.gb.sprint.com>
Message-ID: <4espdu$h3u@dub-news-svc-2.compuserve.com>
Source record: 107538

There are articles in the old Dutch Free Radio Magazine (Pirates off course). All based on "normal" components. I can post a copy to you, if you contact me.

Joerg (GM4YRI/DF3EI)

910. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <4et7qr$384@mgate.arrl.org>
Source record: 107539

Intead of buying costly temperature compensating capacitors, consider the circuit on page 14.20 of the 1996 ARRL Handbook, which uses a pair of thermistors to control a varactor diode.

Even better might be a digital circuit that can differentiate between warmup drift and temperature variation, as well as accomodate non-linearities easily. But, I've not seen a published example to copy.

Zack KH6CP/1

911. Reducing IC-735 6-meter spurs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: an142028@anon.penet.fi
Message-ID: <150341Z02021996@anon.penet.fi>
Source record: 107540

REDUCING 6-METER SPURS FROM THE ICOM IC-735

Recently, I assembled a Ten-Tec 1208 6-meter Transverter Kit which my XYL had given me for Christmas, and which I planned to use with my Icom IC-735 HF rig to return to 6 meters after a hiatus of about 15 years. The "Blizzard of '96" having rendered outdoor work unpalatable, and roof work downright dangerous because of snow and ice accumulation, I decided to build a simple dipole and install it in the attic. This done, I proceeded to give 6 meters a try - but what a cacophony of in-band spurs greeted my ears!

With the 1208 connected to the dipole, which is located in the attic and about eight feet directly above the shack, tuning across the band from 50.0 to 50.250 (14.0 to 14.250 on the IC-735) revealed a vast array of spurs - some fixed frequency, and some of which "stepped" as the IC-735 was tuned - ranging in amplitude from right at the noise level (about S-2 on the IC-735 S-meter) to S-8. Several of the most prominent in the primary range of interest between 50.025 and 50.225 are listed below:

Frequency (MHz) Amplitude Description
~~~~~~~~~~~~~~~ ~~~~~~~~~ ~~~~~~~~~~~
50.047 S-7 Steady carrier

50.100 S-8 Steady carrier

50.121 S-6 Step (follows
IC-735 tuning)
50.200 S-8 Mixed, steady &
step
50.226 S-6 Step

Although I was able to successfully use the IC-735/1208 combo with the indoor dipole for 16 QSOs in 5 grids during the January VHF Sweepstakes, the presence of such a multiplicity of spurs, at least some of which were apparently emanating from the IC-735 (witness the "step" signals noted in the table above), was deemed unsatisfactory. I therefore proceeded to investigate the nature of the problem and to attempt to determine a solution.

The first thing I noticed was that removing the microphone from the HF rig eliminated many of the spurs and drastically lowered the amplitude of the stronger ones.
~~~~~~~~~~~~~~~

Using a short length of wire as an "antenna," I alternately touched each pin in the chassis connector and discovered that although several pins were "hot" with the spurs, the worst offender was the PTT ground line. Touching a small bypass capacitor between the PTT ground pin and the chassis reduced the amplitude of the spurs several S units.

A word about where the spurs come from: Most are present inside the IC-735, at least some of them are synthesizer-related, and they are conducted between the PLL board and a small auxiliary board mounted behind the front panel adjacent to the mike connector. Signals are carried from this auxiliary board to the mike connector via a small, thin, plastic ribbon with parallel circuit traces on it; the end of this ribbon is soldered to the pins on the back of the mike connector (the ribbon has an eyelet pattern which matches the pin layout on the connector). Needless to say, any signal present on any trace is readily coupled to other traces, and with the microphone plugged in a ready-made "antenna" is available to radiate these spurious signals.

Despite the use of small RF chokes and some bypassing on the auxiliary board, the spurious signal levels audible in the 6-meter band when the antenna is located in the proximity of the IC-735 are quite prominent and annoying. Obviously, mounting the 6-meter antenna outside, high and in the clear and as far away from the IC-735 as practical, will reduce the spurious pickup. Some of the spurs were so strong, however, that I deemed it appropriate to try and reduce the amplitudes as much as possible; if reduced to the point of being a mild annoyance with the antenna only eight feet from the rig, I surmised, then using an outside antenna should render them inconsequential.

Unwilling to immediately make internal modifications, I reconnected the microphone and tried clamping a ferrite RFI choke onto the mike cable adjacent to the connector. The RFI choke consists if two 1" x 1/2" x 1/4" thick pieces of ferrite material, each with a longitudinal semicircular groove in it. Each piece is mounted in a hinged plastic cover and forms half of a clamp which, when placed over a cable and snapped shut, is supposed to reduce RFI leaving the equipment and traveling down the cable. It is intended to be used on personal computers to prevent radiation from keyboard and monitor cables.

The ferrite clamp proved to be something of a disappointment; while it did reduce the amplitude of the spurs, using one clamp only reduced the level about an S unit and using two reduced the level no more than half an S-unit more. Given the amplitude of some of the spurs, I considered

this to be inadequate, and so set about to determine what internal modifications could improve the situation.

I will spare the reader the details of all the measurements and combinations tried, but suffice it to say that internal bypassing is the only way to effectively reduce the spurs to a point where they become barely an annoyance; I was unable to eliminate them entirely. The remainder of this discussion deals with the final modifications as they were incorporated in my IC-735.

To accomplish the internal bypassing, first remove the top and bottom covers of the IC-735 and lay it on its top with the front panel facing to the left. This puts the mike connector on the observer's left and immediately in front. Behind the mike connector is a small, vertically-mounted circuit board, and pointing towards the observer from this board are several small, green RF chokes in approximate vertical alignment. These chokes are, from top to bottom: L8, L7, L6, L5, L4, and L3, and are in-line chokes for the PTT, squelch, UP/DOWN control, +8 vdc, audio output, and microphone "hot" lines, respectively. L2, the microphone return, is located on the same board but on the bottom left as viewed by the observer and is pretty inaccessible.

Since L7 (squelch), L5 (+8 vdc) and L4 (audio output) are not connected to any wires in the mike cable when the standard HM-12 hand mike is used, they can be ignored. This leaves L8 (PTT), L6 (UP/DOWN), and L3 (mike) which could be bypassed. During testing I determined that bypassing these chokes reduced the spur levels as follows (tests performed while monitoring the 50.100 spur):

L8 bypassed: Level reduced from S-7 to S-6
L6 bypassed: Level reduced from S-7 to S-4
L3 bypassed: Level reduced from S-7 to S-6

I also determined that bypassing L2 (mike return) would reduce the spur from S-7 to S-5, and bypassing pin 6 on the mike connector (PTT return, which does not pass through a choke) would reduce the level from S-7 to S-4. L-2 is located such that my soldering iron wouldn't reach it, but pin 6 of the mike connector was barely accessible from behind by *very carefully* reaching in. I therefore determined that I would install three bypass caps: One on pin 6 of the connector (PTT return), one on L8 (PTT), and one on L6 (UP/DOWN). Since bypassing L3 (mike) had only a minimal effect at best, it would be left alone.

The capacitors I chose were all CK05 square ceramic types, but disc ceramics should work just as well. The values I used were 0.1 ufd for bypassing pin 6 of the mike

connector and 0.01 ufd for bypassing L8 and L6.

The RF chokes are easily bypassed, since they are mounted vertically to the board (horizontally to the observer) with the outer-most lead looped back down to the board. Make a small "hook" in one lead of a bypass capacitor (cut the lead length to about 1/4" or so), hook it over the wire of the loop, and tack it with the soldering iron; the other lead of the bypass capacitor should be grounded. Alternate loops have insulating sleeving on them, but as it happens the loops of L8 and L6 (top and third from the top as viewed by an observer with the rig upside down as described) have no sleeving and so the connections are easily made (see the note below regarding the ground connection point).

Connecting to pin 6 of the mike connector is a bit trickier: First, make a small loop in one lead of a capacitor (the lead can be cut to about 3/8" long first), bend the loop 90 degrees, then slip it over the pin. Reach in *VERY* carefully with a small soldering iron (25 watts or less) and "tack" the lead to the pin. ***USE EXTREME CARE NOT TO TOUCH THE PLASTIC RIBBON OR ANY OTHER INTERNAL COMPONENTS OR WIRES!!!***

The free lead of each bypass capacitor should go to chassis ground, and this is easily accomplished by mounting a solder lug under the nearest PC board holddown screw on the large board mounted to the underside of the IC-735. This brass screw is plainly visible on the left front edge of the board (as viewed by the observer with the radio facing left); just remove the screw, lockwasher and flatwasher, slip a lug over the screw shaft, and reinstall the screw with the lug facing toward the rear of the front panel. I used one of the long, tapered lugs. It's easiest if you install the lug *FIRST* before installing any of the bypass caps.

After installing the three bypass capacitors most of the spurs had been reduced to the point of being completely inaudible. Of the strongest of the original spurs, the two at 50.100 and 50.200 are barely audible at the noise level, the synthesizer-derived "step" spurs at 50.121 and 50.225 are no more than S-3 (with an S-2 noise level and the IC-735 preamp turned on), and only the 50.047 steady carrier is unchanged at S-7 (my guess is that this is an external signal; I have a couple on 2 meters from the local TV cable). There are no other spurs of any consequence within the range from 50.100 to 50.225 -oh, perhaps a very faint, almost inaudible remnant in two or three places - but nothing to interfere with weak signal operation. An outside yagi should only make things better.

For those who may be wondering, I actually tried cutting the UP/DOWN line at L6 but it made almost no difference; bypassing is the only thing that really seems to work. Oh, yes, don't forget to ground the IC-735 to your station ground via the rear panel ground jack - the difference between "grounded" and "ungrounded" is about half an S unit (with no bypassing).

Incidentally, the modifications have had no adverse effect on operation of the IC-735, and in fact have made 6-meter operation very pleasurable. I can't wait for that first sporadic E band opening!

If you have questions or comments about the problem, tests, or procedures described, please feel free to drop me an e-mail at pbock@melpar.esys.com or call me at (703) 560-5000 x 2062 (weekdays) or (540) 882-4745 (evenings/weekends).

73,

Paul Bock, K4MSG

--****ATTENTION****-****ATTENTION****-****ATTENTION****-***ATTENTION***
Your e-mail reply to this message WILL be *automatically* ANONYMIZED.
Please, report inappropriate use to abuse@anon.penet.fi
For information (incl. non-anon reply) write to help@anon.penet.fi
If you have any problems, address them to admin@anon.penet.fi

912. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <4et9jr$85g@cocoa.brown.edu>
Source record: 107541

In article <drm6.44.310FDB1D@psu.edu>, drm6@psu.edu (Drew R. McGhee) said:
>Posted on 31 Jan 1996 at 16:11:57 by Drew R. McGhee
>There is a chip that does what you want. Sorry, can't think of the
>manufacturer. Ramsey sells two complete kits that uses it and does what you
>want. I've seen the chip sold separatly but can't find a listing in a catalog
>just for the chip at the present time.

Rohm's BA1404 is listed in the Dalbani catalog.

j

913. Source of crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8157.546@acenet.com>
Source record: 107542

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

Stan Jacox writes:

SJ>I'm in the process of refurbing a Motorola Micor T83RTA mobile rig after
SJ>many years of not working on commercial gear and found that I don't have a
SJ>source for xtals. Who still makes crystals for the KN1005 and
SJ>Stan Jacox KM6XZ
SJ>http://www.studio-maint.com/~stanj

Sources for crystals used in amateur radio:
List by AF4K, Updated 20 Jan, 1996
==========
Updated copies downloadable from BBSes at: (301) 942-2218
(301) 417-6952, (301) 590-2981, (202) 619-1494, (202) 208-7679
FTP: lujce@hooch.cc.lehigh.edu
FTP: adams@chuck.dallas.sgi.com
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
URL: http://www.nd.edu/~shideg/
==========

Antique Radio Classified 508-371-0512 Write for free sample.
P.O. Box 802 Magazine. You'll find almost ANYTHING here
Carlisle, MA 01741 for older radios, obscure parts, tubes etc.

Cal Crystal Waiting for more information
Buena Park or Anaheim (not sure which)
California "They will MAKE rocks for almost anything"

Cathodeon Crystals, Need phone number
A PYE Group Company
Linton,
Cambridgeshire
England (Need postal code) Crystals

Crystek Crystals 800-237-3061
2351/2371 Crystal Drive
Ft. Myers, FL 33907 Quartz Crystals

CW Crystals Inexpensive, but SLOW to respond.
570 N. Buffalo Street
Marshfield, MO 65706 (Crystals, $1.00 catalog)

Debco Electronics 800-423-4499
Address needed Crystals for $1.25 and up - catalog.

International Crystal Mfg Co. 405-236-3741
10 North Lee Street Crystals!
Oklahoma City, OK 73102

ICM (International Crystal Manufacturing Co., Inc.) 800-426-9825
P.O. Box 26330: 701 W. Sheridan
Oklahoma City OK 73126-0330

JAN Crystals 800-526-9825: 813-936-2397
P.O. Box 06017: 2341 Crystal Drive: Crystals
Ft. Myers, FL 33906-6017

K-W Manufacturing Company Inc (405) 567-2284
919 8th Street FAX: (405) 567-4153
P.O. Box 508
Prague, OK 74864

LESMITH CRYSTALS (905) 844-4505
54 Shepherd Rd, Fax = (905) 844-2274
Oakville, ON
L6K 2G5
CANADA Crystals for amateur radio. VISA & MC OK.

Marsh Crystals Phone number needed
Address needed
Missouri Source: Frank, WS0W (A313@lehigh.edu)

MDM radio (708) 848-4210
Address needed FAX = (708) 848-0230.
Channel Elements for commercial 2-way radios.

Petersen Radio Co. (712) 323-7539
2735 Avenue "A"
Council Bluffs, IA 51501 Crystals

QSL Ltd. (44) 01322 330830
PO Box 19, FAX: (44) 01322 334904
Erith, Kent DA8 1LH "Made to order quartz crystals,
(England, obviously) delivery approx. 2 weeks."

Ryan Communications 412-368-3859
BOX 111E Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

Sentry Manufacturing Company (405) 224-6780
Crystal Park
Chickasha, OK 73018 Crystals

Velco Electronics (716) 924-2073
Address needed (716) 924-2136 = FAX
Address needed Crystals

C. W. Wolf Communications (406) 252-9220
Address needed FAX = (406) 252-9617
Channel elements for commercial 2-way radios.

```
================================================================================
This list was prepared by AF4K, Brian Carling - Updated Jan 20, 1996
Please send additional sources for inclusion in this list.
If you go to a hamfest and see someone selling crystals, please
get a card and send me their name, address and phone number.
```

(301) 990-6070
brian.carling@acenet.com

• SLMR 2.1a •

914. HELP WITH SELECTING FIRST

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8158.546@acenet.com>
Source record: 107543

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

Alex - it would help us if you had given us a clue about what country
you are located in!!!!

If you are in the U.S.A. you will have a VERY difficult time trying
to contact RUSSIA on a handheld. The only one I know that might do
it is the Mizuho handheld 10 meter or 6 meter SSB handhelds. They are
hard to find.

AL>HI, I JUST GOT MY LICENCE AND I WANT TO BUY A HANDHELD HAM RADIO BECAUSE I
AL>AM ALWAYS TRAVELING. CAN ANYONE HAVE ANY SUGGESTIONS? I WANT IT TO BE
AL>MODIFYABLE AND I WANT TO TALK TO PEOPLE IN RUSSIA. PLEASE INCLUDE THE
AL>PRICE ALONG WITH THE MODEL NUMBERS.
AL> THANK YOU

 SLMR 2.1a

915. Needs: info power module MHW 709-1

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: c_struyk@pi.net
Message-ID: <NEWTNews.823326798.11010.c_struyk@pi-user.pi.net>
Source record: 107544

Hello dr reader,

I need info about the Motorola Power module MHW 709-1
For what frequency can it be used ?
Where can i find specific parameters

please replay

thanks, Cor PA0GTB

916. Needs : Info Power module M-67715

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: c_struyk@pi.net
Message-ID: <NEWTNews.823327063.11875.c_struyk@pi-user.pi.net>
Source record: 107545

Hello dr om,

Who can tell me where i can provide the Power module M-67715 2 Watt 23 cm,
1299 Mhz module and at what cost.

Or better who can spare one..??

please reply

73, Cor PA0GTB

Greetings, Cor Struyk

917. Re: trx designs (vac tube or transistor) help / beginner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4esg4n$1nt2@info4.rus.uni-stuttgart.de>
Source record: 107613

> I'm interested in possibly getting started in ham .. but I'd like to build
>my own set. Unfortunately, the only resources I've found to this regard is
>anold 20W transmitter vac tube design.. and a corresponding reciever.

Wellcome.

However, when you want to build your own gear, it is vrey important
to carefully choose a design. there are of course lots of nice
designs around, eg in the ARRL Handbook. For simplicity and performance
designs with transistors and integrated circuits are best. Tubes are
only of interest once you get into the state when you are thinking about
a kilowatt output power on transmit.

73, Moritz DL5UH

918. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: jdc3538@osfmail.isc.rit.edu
Message-ID: <4es0a0$8fc@news.isc.rit.edu>
Source record: 107614

What you want is the BA-1404. Everything you need is on one chip. Get the Ramsey FM-10 or DC Electronics Stereocaster kit for $30 or so.. By the time you find the BA-1404, a 38 KHz crystal, etc., you may as well have bought the kit. I got a Stereocaster and replaced the output transistor with a MRF581. It was good for 1/4 watt or so when run off 12 volts.. Don't forget a low pass filter...

Oh, and they don't use PLL's, but the Stereocaster was stable enough after running for 10 or 15 minutes. The Ramsey is said to drift a little more.

Check alt.pirate.radio (or alt.radio.pirate?)for a FAQ. There's a FTP site at ftp.dg.rtp.com or something like that, and a few web pages floating around.

73..Jim N2VNO

In article <4emtge$t1g@bcfreenet.seflin.lib.fl.us>,
Eliot Fenton <z007298b@bcfreenet.seflin.lib.fl.us> wrote:
>Pardon my lack of stereo fundamentals.............
>
>But does anyone know of a chip manufactured by Motorola, National, etc.
>that will take left and right stereo audio outputs (from say a C.D.
>player) and produce an RF carrier suitable for reception and demod. on any
>stereo receiver? If not a single chip, does anyone know of any articles
>written on how to build such a thing? I would think the hardest part
>would be generating the subcarrier (a PLL?), but I would like to see what
>other people have come up with.
>
>Regards,
>
>--
>
>Eliot Fenton
>z007298b@bcfreenet.seflin.lib.fl.us
>Compuserve: 72633.3247@compuserve.com
>

919. Re: Printer generated transparency problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: ericw@iaehv.nl
Message-ID: <4esraa$5bk@iaehv.IAEhv.nl>
Source record: 107615

JLAN98A@prodigy.com (Kenneth Burtchaell) wrote:

>I am experiecing difficulty in getting a good solid blackening in the
>solid trace areas of PCB layout transparencies on my Okidata OL400
>printer.It has been suggested to me that this might be a electro static
>induced problem . Anybody have any good ideas?
>
> 73 Ken W6GHV

I use a HP 4P with the original toner cartridges and HP's
transparencies....only on some traces minor problems...
I use to make really black with an ink-pen...really no
real problem.

\ Eric-Jan Wosten DDS
\ Best, Holland
========================

Internet: ericw@iaehv.nl
AMPRnet: pa3cev@pa3cev.ampr.org
AX25:pa3cev@pi8zaa.#bra.nld.eu

920. Re: Dec Qex "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: EFBRYA@acxiom.COM
Message-ID: <1121ae50@acxiom.com>
Source record: 107616

I think a good compromise would be to put the software listing on the net somewhere and on a dial up BBS. Anyone who is going to do their own programming has got to have a PC and should be able to get a modem (even an old 1200/2400 baud!). If they subscribe and desire to do so they could download and print the software and keep it with the magazine. Anyone trying to build it after 3-5 years might have to recreate the software unless it made its way to some of the Ham CDs. The same could be done for board layouts using .pdf format. (Boy that'll start a flaming thread...)

I would characterize the article as "construction" as it had full schematics and circuit descriptions.

I would characterize it as useful because of what it contained. That does not mean it could not be more useful by including the parts that were omitted!

It was a more useful article than the antenna tuner (very personal opinion).

Eric Bryan
KC5EBY

921. Re: HELP Interference

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Brian Mork <morkbj%dfc@dfmail.usafa.af.mil>
Message-ID: <4etn4n$nkg@usafa2.usafa.af.mil>
Source record: 107617

georgef@postoffice.ptd.net (George) wrote:
>I'm trying to use my AEAfax to receive FAX/RTTY. But My computer
>generates too much interfercne.
>I'm thinking of running a ground wire from
>second floor wind and driving a rod in the ground. Will this help? I
>know nothing about grounding.

What frequency is the noise? That will affect the answer of
whether grounding externally with a ground rod will help.

/Brian Mork

922. Re: Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Brian Mork <morkbj%dfc@dfmail.usafa.af.mil>
Message-ID: <4etnbj$nkg@usafa2.usafa.af.mil>
Source record: 107618

Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>I subscribed to QEX for the exchange of ideas and
>more technical design information than appears in QST; but this
>article doesn't do it for me.

They're all going this way (gluing together commercially available
stuff). Do you get CCInk? I just wrote a letter to their
editor saying the same think. I subscribe for ideas, etc, not
just extended product reviews.

923. Thordarson Xfmr Specs sought

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: tomrice@netcom.com
Message-ID: <tomriceDM4LIq.59I@netcom.com>
Source record: 107619

I've run across two NOS Thordarson power xfmrs, but
have no data on their specs. The part number is

T-92R21

If some kind soul has a post-WWII Thordarson catalog,
I'd appreciate a copy (costs supported, of course),
or at least the parameters of this particular xfmr.
I could measure the volts parts, but have no real
way to measure the power ratings (load it up 'til
it gets hot? Bummer!)

Thanks and 73 de WB6BYH

Tom Rice WB6BYH || tomrice@netcom.com
PO Box 2152 ||
Livermore, CA 94551 ||

--
"Start off every day with a smile and get it over with." --W.C.Fields
Tom R. Rice
tomrice@netcom.com
CIS: 71160,1122

924. INFO ON FERROXCUBE CHOKES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: nreed@airsrv.abrdr.dreo.dnd.ca
Message-ID: <4ett91$an3@nouvelles.e33.dreo.dnd.ca>
Source record: 107620

Could you please tell me what value a VK200-4 Ferroxcube choke has?
Also where to procure them?

Thanks
--
Norm Reed
nreed@abrdr.dreo.dnd.ca
DND/DREO/Aerospace Radar & Navigation
3701 Carling Avenue
Building T86
Ottawa, ON, Canada
K1A 0K2
613-998-2891
fax 990-8906
VE3AJI and VE7ALW

925. Re: 82 Repeater in Kansas City/Repeater Use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: no6b@no6b.jpl.nasa.gov
Message-ID: <4eu0il$3ub@elroy.jpl.nasa.gov>
Source record: 107621
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <DM3E28.G6G@pe1chl.ampr.org>, rob@pe1chl.ampr.org (Rob Janssen) writes:
>In <4elgqo$q73@nnrp1.news.primenet.com> sparkfel@primenet.com (Mark Fellhauer) writes:
>
>>rob@pe1chl.ampr.org (Rob Janssen) wrote:
>
>>>In <310B8C36.5D9@magnum.wpe.com> Eddie Caffray <caffraye@magnum.wpe.com> writes:
>
>>>> On the 146.85 repeater here in Central NY we had trouble with one user also. He made it that
>>>>no one would even monitor the reapeater anymore. The club voted to ban him and we did. The
>>>>reapeater is a great place to be again.
>
>>>How do you manage to effectively ban malicious users from a repeater?
>>>Of course this problem is known all over the world, but at least over
>>>here we have not yet found an effective way of stopping them. How do
>>>you do that?
>

Here's what a local repeater club in So. Cal. did:

-Changed the status of their repeater from 'open' to 'private', so that only club members are 'supposed' to use it.

-Got a restraining order prohibiting the undesired user from using the repeater.

The restraining order was enforced & the undesired user was forced off the repeater, along with lots of 'good' non-member users.

Bob NO6B

926. Re: Dec QEX "construction article??"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.823276970.12133.jwicklun@mycroftxxx.halcyon.com>
Source record: 107622

Well, I seem to stand alone on this issue, so I'll drop it. Just so there is no misunderstanding, I enjoyed the article in question, and think that the authors did a fine job of design. I just didn't think that it belonged in the "QEX ARRL Experimenters Exchange" (emphasis on exchange) without more disclosure. But I started the thread to see how others felt; and it appears that there isn't a whole lot of interest in the matter. So, thanks for the comments....73

927. Motorola MICOR - Repeater MOD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-02 00:00:00 UTC
From: Al Wong <alwong@mitre.org>
Message-ID: <4et38i$pom@linus.mitre.org>
Source record: 107623

Does any one have any info on modifying the Motorola MICOR to be a repeater? I saw this ad in a recent copy of CQ and was wondering what the specs were and what it entails.

--
Al Wong The above opinion is mine, and does
KF4GDD not reflect that of my employer. As
alwong@mitre.org with all my opinions, I write them, you
interpret them.

928. FS/Trade: Tek 465 Scope Service Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: "Walt W.", dfheli@gramercy.ios.com
Message-ID: <4eu8vr$t0t@news.ios.com>
Source record: 107546

Hello,

I have a Tek 465 Service Manual.

I need a Tek 465B Service Manual.

Will trade or what ever!

Thanks

Walt W.
dfheli@gramercy.ios.com

929. Transmitter fingerprinting (was Re: 82 Repeater in Kansas City)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4eu9oi$86i@abyss.West.Sun.COM>
Source record: 107547
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <4ete1q$b0o@bcarh8ab.bnr.ca>, Dean Denter <ddenter@magi.com> wrote:
>In article <DM3E61.G7v@pe1chl.ampr.org>,
> rob@pe1chl.ampr.org (Rob Janssen) writes:
>>In <dbaker.85.000A5CBA@mail.bcpl.lib.md.us> dbaker@mail.bcpl.lib.md.us (Donald I. Baker) writes:
>>
>>>Technical solutions do exist. Using a "TX-ID" board, which uniquely
>>>fingerprints each transmitter and a PC one can "slectively" include or
>>>preclude individual users.
>>
>>>The board was not meant for that purpose, but with just a little Basic of C
>>>codes, it workd just fine. It is especially easy if you have a single or
>>>limited number of receive site.
>>
>>Is that using some public key encryption technique?
>>If not, what is preventing the malicious from cloning one of the
>>apparently valid codes?
>>
>
>Every radio has a "unique" pattern when you key it (due to differences
>in the components etc), this pattern can be used to identify a radio.
>There is no encrypted signal or anything that fancy.
>
>One of the repeaters that I used to monitor had a tx-id system on it,
>if you ker-chunked the repeater more than 3 times in a 5-10 minute
>period, it would lock you out for a couple of days. It was also used
>to track stolen equipment (you had your tx "fingerprinted", then when
>the tx got stolen, you just let one of the ops know and the repeater
>would advise you when it heard that tx (if it heard it)). They, also,
>could (and did) blacklist certain radios.
>
>
>>Also, what is preventing the malicious user from just keying up over
>>other people's transmissions, thus rendering the repeater useless?
>>
>
>This is one of the weaknesses of the system, another is changing the
>rig, or swapping a couple of components in the tx (changing some of
>the resistors/caps is usually enough).

Admittedly, I've never evaluated one of these transmitter fingerprinting systems myself, but I have a little trouble believing some of the claims made about them. For example, the claim that each and every radio

is uniquely identifiable, even radios of the same model and production run. Granted, variation in component values will result in slightly different PLL characteristics, but I have yet to see any evidence that suggests that the resulting fingerprint varies enough to be considered "unique". Also, component ageing and temperature variation can cause considerable drift over time, and I haven't seen any evidence that this drift isn't great enough to change the "fingerprint" of the radio.

Another factor worth mentioning is that the characteristics of a PLL may change considerably as you change frequency, due to variation in gain of the VCO. A fingerprint taken at 144.0MHz may not "match" a fingerprint taken at 148.0MHz, for instance.

I'm also interested in how accurate the software algorithms are that are used to compare a captured fingerprint with stored fingerprints. I can't help but speculate these algorithms generate a likelihood of match measurement, and some arbritary level is used as a decision point (like, say 90% likelihood of match). Too loose a standard and many radios will match one fingerprint, too tight a standard and one radio won't match it's own fingerprint from one day to the next (or even one frequency to the next).

I've worked with people that built radar-signature analyzers (part of an electronic countermeasures system) and they indicated that the signature of a model of transmitter was very consistent from one unit to the next. Granted, radar transmitters are different than PLL controlled transmitters, primarily that a radar transmiter signature consists of both amplitude and frequency variation and a PLL transmitter signature is composed of frequency variation, but the fingerprinting technology depended on a high degree of consistency from one unit to the next.

Every time I bring this up, I get a handful of mail messages from people saying "we have it and we swear it works", and I think the concept is really neat and I'm sure there are some neat prototypes. I'm just not convinced the people using this technology are completely aware of how it works, and/or being completely honest about how well it works. I'm curious, and want to research it more sometime, and it would be neat if could discuss this technology objectively without immediately descending into an unrelated thread about repeaters, jammers, scumbags and the FCC.

Please note that I trimmed the Newsgroups: line, and have set the Followup-To: line to rec.radio.amateur.equipment.
--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

930. phone patch project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: dll@chattanooga.net
Message-ID: <4euk48$4ju@news.chattanooga.net>
Source record: 107548

Does anyone know where I can search for an acoustic coupler? You know; the modem used in the movie "Wargames" that required you to physically set the handset down on it. Please respond by E-mail.
Thanks,
KF4EBP

931. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: dougrand@i-2000.com
Message-ID: <4eummv$j0n@i-2000.com>
Source record: 107549

w8jitom@aol.com (W8JI Tom) wrote:

xxIn article <4eiks1$l4a@pacific.mps.ohio-state.edu>, James Garland
xx<garland@ohstpy.mps.ohio-state.edu> writes:

xx>I've never had the nerve to try this technique. I just can't bring

xx>myself to dunk, say, my Central Electronics 100V in the bathtub and
let
xx>it soak. I'd be interested in knowing others' experience with this
xx>cleaning method. Is it really necessary to remove the transformers?
What
xx>happens to the cardboard sleeves of IF transformers? Does it
hopeless
xx>ruin paper capacitors? Are there other precautions to take?
xx>
xx>Jim W8ZR

xxA bubble bath may be the only way to clean the signal up an old
xxboatanchor! (Just kidding Jim, I couldn't resist)

xxSeriously. I use a quick soapy water bath, a water hose bath, then a
xxdistilled water bath, then I use an airhose to blow em out, then I
let the
xxrig dry under a heatlamp for a few days, and last I put a light
coating of
xxWD-40 in the right spots. I did that to a Ranger, DX-100 and an
Apache.

xxMy rigs now look very clean and still work, only the signals are
dirty.

xx73 Tom

Gee, I wonder if it would clean up 75 phone?
KN2Y

932. Need Manual for Hallicrafter s.w.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: firstgen@onlink.net
Message-ID: <4eujqj$fe6@onlink3.onlink.net>
Source record: 107550

I need a service manual for the Hallicrafters Radio model TW 2000
this is an all band short wave radio made in the late 40s or early 50s
and I beleive that it was made in Canada. I have two of them and both
need work but the manual is needed in order to do the job right.
Can anyone help?

Neil

933. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DM6MJ9.IqE@ncifcrf.gov>
Source record: 107551

In article <4ee9o0$p4m@maureen.teleport.com> w7el@teleport.com (Roy Lewallen) writes:
>> subbustr@whidbey.net (DAVE M . SCHERTZER) writes:
>> Use WD-40 on my mobile rig to fix a LCD prob and
>> it worked!!!! Tried contact/tuner spray and had to
>> re-apply every 2 weeks, WD-40 no probs fer the
>> last 6 months..works fine in a pinch.....
>>
>> de ve7-lfa
>
>

>I use WD-40 all the time on swiches (rotary, AC power, relays,
>you name it), noisy potentiometers, sticky slugs in old UHF
>rig inductors, locks, and anything else that slides or turns.
>Doesn't hurt any of 'em. It's one of the Great Inventions of
>the 20th Century (along with latex paint and plastic drinking
>straws. .)
>
>Roy Lewallen, W7EL
>

I think last year was the 40th annivesary of WD-40. There
was a program on it on NPR (or something). It was the 40th
formulation tested to stop rocket parts (or jet aircraft
parts) from sticking together (or rusting, don't exactly
remember the whole story). WD-40 is the only product of
the WD-40 company. I don't think the guy who invented it
made much money out of it - it was formulated as an in-house
thing.

Joe Mack NA3T

934. Re: Wanted: 10 Ghz Door Opener Sources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4f05ba$ev8@news.calweb.com>
Source record: 107552

Neil Gjere <ngjere@skypoint.com> wrote:
>I'm looking for a source of the 10 Ghz Gunns used in Door Openers.
>I'm specifically looking for Solfans or Other cavities that include a
>Varactor as well as the Gunn diode in the housing.
>
>I have several cavities that have just the Gunns in them, and would like
>to experiment with other designs.
>
>73s,
>
>Neil N0PFZ
I also have GUNN units that have a detector diode. I have found
that I could bias the diode and use it as a Varactor and get some
usable FM deviation. I havent seen any alarm units or door openers
that have the Varactor.
Bill K7NOM

935. Re: controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4f07u9$mkr@newsbf02.news.aol.com>
Source record: 107553

In article <Pine.SOL.3.91.960202225545.8004B-100000@tiger.olivet.edu>,
Michael Haydon <mhaydon@olivet.edu> writes:

>Read an article in april 1962 qst regarding controlled carrier amplitude
>modulation, YES A.M.!!!. anyone tried this technique? Article was on 40w
>mobile rig. am hoping to put together 300watt or so unit using a pair of
>microwave oven transformers, but am wondwering abt their audio freq.
>response.
>any replies commenting on how much you hate am will be ignored.
>
>

Controlled carrier AM has the same fidelity as any other AM system, they
are all limited by the skill of the designer.

The idea of controlled carrier AM is to reduce dissipation between words.
So it allows the PA to be used at it's PEP rating rather than it's
continious dissipation rating.

You have to be careful to increase the carrier *before* the modulation
increases, and decrease it *after* the modulation decreases. You can use
controlled carrier with control grid, screen, cathode, or plate
modulation. In my view, it's just one more thing to go wrong for the small
increase in power it provides.

For example, a 100 watt dissipation PA capable of 800 watts PEP can
operate at more than 200 watts carrier output in plate modulated class C
voice operation. That's because efficiency can be well over 70%. (RCA made
a plate modulated AM BCB transmirtter that had 90% plus carrier eff)

The same PA can only operate at 50 watts AM carrier output (200 watts PEP)
in linear or grid modulated service, because the efficiency is restricted
to 33% or less.

With controlled carrier, in theory each PA can operate at the maximum 800
PEP during modulation peaks of short duration with a long cooling off time
in between, but the real world result of normal modulation duty cycles
limit it to a figure more like 400 watts PEP (100 watts carrier). So you
gain 3 dB for a *LOT* of grief in adjustments.

A better solution is to reduce the carrier. The weak carrier can be
filtered and amplified in the receiver and re-injected with the audio
sidebands. Or another carrier can be generated and re-injected in the
receiver. This modulation scheme also can be arranged to remove signal
from one sideband and add it to the other, allowing narrower receiver BW
and improved S/N ratios.You can do this easily in the PA by adding phase
shift to the carrier and audio signals, or by a modulator/filter scheme.

I use this system all the time. If you tune around, you will find other experimenters using it.

73 Tom

936. Re: Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDM6EwE.496@netcom.com>
Source record: 107554
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Mark Mansfield (markman@UTM.Edu) wrote:
: I'm looking for a pair of Collins (or equiv.) mechanical filters for a
: CW receiver which I'm building. I'm planning on using one of the filters
: in the front of the IF and using another in the "tail-ended" mode after

As I recall, Collins mechanical filters are 455 KHz. Toyo makes inexpensive 455 KHz ceramic resonators and filters in various bandwidths, and DigiKey sells them. Obviously these are no match for the mechanical filters. However they are cheap enough such that you could cascade them or use them in various feedback configurations. I saw one design where the ceramic resonator was used instead of an emitter bypass capacitor in an IF amp. The low cost and easy availability of these filters invite experimentation.

Thomas KI4N

937. Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: 74003.470@compuserve.COM
Message-ID: <960203042456_74003.470_BHR67-3@CompuServe.COM>
Source record: 107555

>>But does anyone know of a chip manufactured by Motorola, National, etc.
>>that will take left and right stereo audio outputs (from say a C.D.
>>player) and produce an RF carrier suitable for reception and demod. on any
>>stereo receiver? If not a single chip, does anyone know of any articles
>>written on how to build such a thing? I would think the hardest part
>>would be generating the subcarrier (a PLL?), but I would like to see what
>>other people have come up with.

>There is a chip that does what you want. Sorry, can't think of the
>manufacturer. Ramsey sells two complete kits that uses it and does what you
>want. I've seen the chip sold separatly but can't find a listing in a catalog
>just for the chip at the present time.

I know of one single-chip FM stereo transmitter. That's the BA1404. Add
a 38 kHz crystal and a handful of resistors and capacitors, and you have
a transmitter that runs on 1.5 to 3V. Sorry, I don't remember who manufactures
the chip.

DC Electronics sells these chips (~$2), as well as a kit (~$20). I built this
kit and it worked fine for my purposes - transmitting from a CD player to
a nearby FM radio.

I've heard that this kit may drift too much to work well on the newer
digitally-tuned receivers. Older receivers used a PLL to lock onto the
signal, so they receive just fine.

I'm not sure if Ramsey uses this chip in their transmitters. At least one of
the Ramsey kits advertises "Synthesized 88 to 108 MHz." Presumably
this transmitter would work well with digitally-tuned receivers.

Paul Ostby, KC7CKU

938. Re: phone patch project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: Michael Haydon <mhaydon@olivet.edu>
Message-ID: <Pine.SOL.3.91.960203114748.10538A-100000@tiger.olivet.edu>
Source record: 107556

Try Mendelsons Electronic Surplus in Dayton, Ohio.
Their # 1-800-344-4465

On 3 Feb 1996, David Lawson wrote:

> Does anyone know where I can search for an acoustic coupler? You know; the
> modem used in the movie "Wargames" that required you to physically set the
> handset down on it. Please respond by E-mail.
> Thanks,
> KF4EBP
>
>
>

939. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4f07e3$me5@newsbf02.news.aol.com>
Source record: 107557

In article <DM445q.FG1@iquest.net>, mai@iquest.net (Patrick Croft) writes:

>ing in an oven at 135 degrees for
>about 30-60 min. after the bath. The cleanser used was called 'Swipe",
>and the currently marketed 'SimpleGreen' appears to be same stuff.

Be careful. My mother in law rubbed Simple Green on her car and it took
the paint off!!!!!!!!!!!!!!!

73 Tom

940. Receiving SSB on AM SW radio.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: harryjb@exit109.com
Message-ID: <4f02nd$9ib@news1.exit109.com>
Source record: 107558

Hi:
I use to only use two radios. One SW receiver, and an ordinary AM is fine. Find the SSB on the SW receiver, and tune around with the AM radio (with the volume down) until you hear a hetrodyning from the AM radio. A simple AM radio can transmit a strong signal sometimes! more than likely, you will be able to find a spur in the band your listening.

941. Re: CCITT fax via radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: Rob Silva <rsilva@adelaide.dialix.oz.au>
Message-ID: <31136278.E7E@adelaide.dialix.oz.au>
Source record: 107559
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Jon Bloom wrote:
>
> I'm looking for information from anyone who has developed a technique for
> transferring CCITT group-3 fax (i.e., standard office fax machine data) via
> radio. The "ideal" system would be one wherein a person at point A stuffs a
> document into a fax machine and it comes rolling out of a fax machine at
> point B, with the connection between the points being a radio link. But I'm
> interested in *any* techniques being used to achieve fax-via-radio. (Note:
> NOT WEFAX, APT or what-have-you. Just G3 fax!)
>
> Thanks.
> --
> Jon Bloom, KE3Z | jbloom@arrl.org
> American Radio Relay League |
> 225 Main St., Newington CT 06111 |

Sure!

Standard Group III fax at each end of a HF radio link. Fully automatic operation at both ends.

Codan Pty. Ltd. (my employer) produces such a system. It is of course a store-and-forward system and you can send a typical fax in less than 5 minutes.

Now I know how sensitive Internetters are to commercials, so if you want more info, email me on rsilva@adelaide.dialix.oz.au . If you ask nicely, I'll even tell you about the competitor's products :-)

942. See Weak Signals with your PC & Soundcard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: mwcook@cris.com
Message-ID: <4ev0du$j8m@spectator.cris.com>
Source record: 107560
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

See Weak Signals with your PC & Soundcard

FFTDSP is a PC program which uses the soundcard
and audio from your radio to detect weak signals

The original FFTDSP38 program displays a
screen (spectrograph) which shows weak
signals as color traces against a dark background.
A continuous 4096 Point FFT (fast Fourier transform)
is used to provide 640, 2Hz wide filters.

FFTDSP41 - Beta Demo Version now available

Key Additional Features of the upgraded FFTDSP are:

- Record and Playback WAV files for post spectral analysis
- Automatic Color Gradient for optimum visibility
- Integration mode for signal detection below the noise
- Mouse point and click for selective recording
- On screen Moon position and TOD tracking
- True S/N (in 100 Hz Ref) bar graph
- Selective area and mode for S/N display
- Display Smoothing Filters
- Zoom In/Out for wider frequency coverage
- Improved Graphics Interface and Setup Screens
- Find Call feature from partial information

Available Download Sites for Beta Demo:

Internet - http://www.webcom.com/af9y
Internet - ftp.webcom.com/pub/af9y
BBS - East Coast Atlantic BBS (704) 284-4854

EMail:
mwcook@cris.com (preferred)
af9y@aol.com

943. Re: Thordarson Xfmr Specs sought

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4f0hsn$o0b@news.ios.com>
Source record: 107561

In <tomriceDM4LIq.59I@netcom.com>, tomrice@netcom.com (Tom R. Rice) writes:
> I've run across two NOS Thordarson power xfmrs, but
> have no data on their specs. The part number is
>
> T-92R21
>
> If some kind soul has a post-WWII Thordarson catalog,
> I'd appreciate a copy (costs supported, of course),
> or at least the parameters of this particular xfmr.
> I could measure the volts parts, but have no real
> way to measure the power ratings (load it up 'til
> it gets hot? Bummer!)
>
> Thanks and 73 de WB6BYH
>
>---
>Tom Rice WB6BYH || tomrice@netcom.com
>PO Box 2152 ||
>Livermore, CA 94551 ||
>---
>
>--
>"Start off every day with a smile and get it over with." --W.C.Fields
>Tom R. Rice
>tomrice@netcom.com
>CIS: 71160,1122

Weight! Yep, weight will get you into the ballpark on those old iron core xformers
at least approximate the KVA rating.

WD9AHF
p.s. powdered cores and new fangled space aged core designs won't comply. You
might try an old NEWARK Catalog.

944. Re: Arizona Microschip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960203170940.9210J-100000@biggulp.callamer.com>
Source record: 107562

Recently, I ran across a reference to Arizona Microchip devices which was interesting. Does anyone have an address or a clue as what they manufacture? I suspect it might be a "STAMP" product but I am not sure. They have a development kit available too.
Cliff Buttschardt W6HDO Morro Bay, Calif

945. QRP Schematics scanned and ready!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4f0sru$as8@news-f.iadfw.net>
Source record: 107563

Hi guys, I finally got the schematics scanned today. They need a little cleaning up, but they're about ready. I'm open for suggestions, should I post them here, somewhere else, or just e-mail them to whoever wants them. Does anybody mind if I post them here? Is there a proper place to post a schematic? They are bmp's now, would .jpg's be better?

All these dumb questions from a newbie poster! I don't even know for sure I can post them, but I'll try it somewhere first.
Thanks,
Kerry Miller
kmiller@airmail.net
WD5ABC

946. Re: controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4f0sm1$as8@news-f.iadfw.net>
Source record: 107564

Michael Haydon <mhaydon@olivet.edu> wrote:

>Read an article in april 1962 qst regarding controlled carrier amplitude
>modulation, YES A.M.!!!. anyone tried this technique? Article was on 40w
>mobile rig. am hoping to put together 300watt or so unit using a pair of
>microwave oven transformers, but am wondwering abt their audio freq.
>response.
>any replies commenting on how much you hate am will be ignored.

Not sure about the audio response, but know about controlled carrier
a.m. a little. I hv an old set of Drake Twins which use controlled
carrier. The guys on the other end don't seem to even notice the
difference unless I say something about it. The benefit isn't so much
that you get more power, but that you have less dissipation to get the
same power. The Drake uses sweep tubes, it wouldn't do but a few
watts if it used regular full carrier a.m. Sounds like a neat
project, good luck!

Ok, so I didn't provide any help, just defending a.m. in advance of
the attacks! I also run a Yaesu FT-990, but the a.m. sounds better on
the Drakes, even though it has less power!
73,
Kerry
WD5ABC

947. Re: WD-40 vice Contact/Tuner Spray!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4f0k3a$qpo@newsbf02.news.aol.com>
Source record: 107565

In article <4er0md$bi8@usenet.continental.com>, Paul Christensen
<paulc@jax.se.continental.com> writes:

>
>I still have an original container of "Daven Oil" for this purpose and
>use it sparingly of course. It's got to last me a lifetime! Anyone else

>remember using Daven Oil?
>
>-Paul, N9AZ

Hi Paul,

They made alcohol based drinks also. I have some, it's called Daven Port.

73 Tom

948. Re: Looking for mechanical filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-03 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4f0q8h$mg0@news3.cts.com>
Source record: 107566
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Thomas G. McWilliams (tgm@netcom.com) wrote:
: Mark Mansfield (markman@UTM.Edu) wrote:
: : I'm looking for a pair of Collins (or equiv.) mechanical filters for a
: : CW receiver which I'm building. I'm planning on using one of the filters
: : in the front of the IF and using another in the "tail-ended" mode after

: As I recall, Collins mechanical filters are 455 KHz.

Collins mech filters are available in a number of center freqs.
My junkbox has CF's of 455, 450, 462, 500, 250 kHz, and maybe
others.

<Shameless Plug> e-mail for a list of filters for sale.

: Toyo makes
: inexpensive 455 KHz ceramic resonators and filters in various
: bandwidths, and DigiKey sells them. Obviously these are no match for
: the mechanical filters. However they are cheap enough such that you
: could cascade them or use them in various feedback configurations. I
: saw one design where the ceramic resonator was used instead of an
: emitter bypass capacitor in an IF amp. The low cost and easy
: availability of these filters invite experimentation.

Note: ceramic resonators are a two terminal device, much like
a quartz crystal, except not as stable or as high a Q.

Replacing the emitter bypass cap of the IF stages DOES work well,
but is becoming less of an available option as receivers go to
mostly integrated circuits. You have some degree of control over
the results by selecting the resonators: two resonators with a
CF of 455 kHz will give a sharper IF than one of 456 and one
of 454 kHz.

This has been an interesting thread, but perhaps it should stay
in r.r.a.homebrew, and not rec.radio.swap if continued.

John Kolb KK6IL jlkolb@cts.com

949. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823443771.29689@pinetree.microserve.com>
Source record: 107474

First, I want to thank everyone for the excellent ideas and information on this subject.

The first two PTO's are back in the rig now and I have had a chance to use them on the air for a few days. They seem to have settled down a little, or at least they're not showing the same drift characteristics as when they were on the test bench. I'm not sure why that is, because I was testing them in the rig after each change.

At any rate, the initial, slow warmup drift now seems to be downward rather than upward, indicating that some additional compensation might be needed. It's not too bad though, and I may leave it as-is. The drift that occurs when I begin transmitting (which is aggravated when I use my amplifier because it's next to the rig), is still in an upward direction.

This may be the result of a temperature gradient across the PTO components (I think it was Cliff who mentioned that possibility). Short of potting the PTO or installing a heater, there may not be much I can do about this. I want to mention that the problem isn't all that bad, and maybe I'm just being picky. I was reading an older receiver construction article recently titled "An Engineer's Ham-Band Receiver", which describes a very well-constructed piece of equipment. The author's VFO was built on a custom (heavy) subassembly using a few of the parts from a BC-221 frequency meter. When he talks about how good the stability is, he describes it as being within 5 ppm per degree (Centigrade, I think). Now, if my math is correct, that means that at a PTO frequency of approximately 5 MHz, a temperature change from 70F to 80F could cause a frequency change of as much as 150 Hz. Actually, the PTO's I've already worked on are not be too far from that kind of stability at this point, at least for initial drift.

I guess what's bothering me most about this is that my old Yaesu FT-101EE was like a rock, despite the fact it was a hybrid. After a fifteen minute warmup, I could ragchew for hours on CW without touching the dial once. Maybe this was just luck of the draw; some owners I've talked to have apparently had major problems with drift in their 101's.

Anyway, the responses to my original question are enough to keep me busy reading, checking components and experimenting for several weeks or even months. As a possible alternative before I start this project in earnest, can anyone tell me whether it's feasible to consider replacing the PTO's with 5-5.5 MHz synthesizers? I've missed most of the QST/CQ/Ham Radio articles in the last five years so I'm not familiar with advances regarding available components. Is it possible to build a synthesizer for this application with 10 Hz resolution at a reasonable

cost, say with two or three chips? Or is this the type of design that still requires a fairly complex circuit?

Tnx & 73,
Jack WB3U

950. Re: See Weak Signals with your PC & Soundcard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <311508e9.3398429@news.duke.edu>
Source record: 107475
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

mwcook@cris.com (Mike Cook - AF9Y) wrote:

>Available Download Sites for Beta Demo:
>
> Internet - http://www.webcom.com/af9y
> Internet - ftp.webcom.com/pub/af9y
> BBS - East Coast Atlantic BBS (704) 284-4854
>

Adding a tilde (~) before the "af9y", like this "~af9y", might be
necessary for some ftp or web browser programs.

Jim

951. Re: Opinions - Ramsey SX-20

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: cooperjim@aol.com
Message-ID: <4f1rj7$bv0@newsbf02.news.aol.com>
Source record: 107476

I built one a couple of years ago. It worked well and heard plenty signals with about 20 feet of wire.
It took only an evening and the manual was easy to follow. It describes the function of the components as you put them in so its a good learning experience.
I just sent the 40 meter receiver kit as a gift for my nephew so he can pick up W1AW from Phila.
The tuning with the single variable resistor is too broad. Put in the bandspread one suggested in the manual.

73
Jim Cooper NE6O
CooperJim@aol.com

952. Re: 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: kd1hz@anomaly.ideamation.com
Message-ID: <4f40k5$1q9@anomaly.ideamation.com>
Source record: 107477
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <dbaker.85.000A5CBA@mail.bcpl.lib.md.us>
dbaker@mail.bcpl.lib.md.us (Donald I. Baker) writes:

>Technical solutions do exist. Using a "TX-ID" board, which uniquely
>fingerprints each transmitter and a PC one can "slectively" include or
>preclude individual users.
>
>The board was not meant for that purpose, but with just a little Basic of C
>codes, it workd just fine. It is especially easy if you have a single or
>limited number of receive site.

I too can attest to the helpfulness of the TX-ID system. Coupled with our
Doppler Systems DF gear, the TX-ID has allowed us to bag several Drew-like
scumbags here in the RI area who have no appreciation for Part 97.

MD
--
--
-- "Who needs looks when you've got taste?"
--

953. SB-220 BAND SWITCH REPLACEMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: "Thomas L. Gaines, Sr." <tgaines@datastar.net>
Message-ID: <4f28pv$c1a@alterdial.UU.NET>
Source record: 107478

I am looking for a replacement switch deck(wafer) for the SB-220
amplifier. If anyone has a substitution, plase give me the source.\\

Tom Gaines/N5ISE

954. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <31150af3.3920546@news.duke.edu>
Source record: 107479

ecloud@goodguy (Shawn Ruttledge) wrote:

>While we're on the subject, can anybody identify this MOV (at least I think
>it's an MOV):
>
><triangle symbol>ZNR
>14K201U
><backwards R>U 46

Check your DigiKey catalog. They're nominal 130 VAC "ZNR"s. 4500
Amp surge rating. They'd make ideal surge suppressors for 120 Volt AC
applications like turning a regular outlet strip into a "protected" strip.

Jim

955. Re: SB-220 BAND SWITCH REPLACEMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4f31oi$lkj@newsbf02.news.aol.com>
Source record: 107480

In article <4f28pv$c1a@alterdial.UU.NET>, "Thomas L. Gaines, Sr."
<tgaines@datastar.net> writes:

>
>I am looking for a replacement switch deck(wafer) for the SB-220
>amplifier. If anyone has a substitution, plase give me the source.\\
>
>Tom Gaines/N5ISE
>
>

Buy an Ameritron AL-80B bandswitch and use the wafers in the Heathkit. The single rear wafer is the only one necessary to use, unless you want 160 through 10.

The voltage rating is higher, so the switch won't be damaged as easily if you mis-tune or underload the amp.. Improper loading is by far the biggest cause of switch failure.

73 Tom

956. TA7204 audio amp chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8211.546@acenet.com>
Source record: 107481

JLJ>penn.edu>
JLJ>Newsgroups: rec.radio.amateur.homebrew
JLJ>Organization: University of Pennsylvania

JLJ>Hi folks,

JLJ>I recently got a Kyokuto FM144-10SXRII radio. Unfortunately, the audio
JLJ>amplifier chip is defective and needs to be replaced. It is labelled
JLJ>TA7204. Are these chips (still) available? If not, what would be a
JLJ>good choice for a replacement. Thanks for any help and/or advice to
JLJ>get this radio going again.

Good luck with the PLL too Jurg. I had one of those rigs and they can go
intermittent somewhat!

 SLMR 2.1a

957. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: ecloud@goodguy
Message-ID: <4f1eqp$do7@news1.goodnet.com>
Source record: 107482

While we're on the subject, can anybody identify this MOV (at least I think it's an MOV):

<triangle symbol>ZNR
14K201U
<backwards R>U 46

It's black, shiny, looks like a disc cap but is a bit too thick to be one of those, and I can see through the coating that the leads bend and go to the center of the material. I'd like to find out what the joule rating is for these - maybe they'd be useful. I got a bunch of them in a Circuit Specialists mystery box. My meter says the capacitance is 878 pF.

--
_______ KB7PWD @ KC7Y.AZ.US.NOAM ecloud@goodnet.com
(_ | |_) html: http://www.goodnet.com/~ecloud
__) | | ____
* OO * Khoros * Linux * robotics * techno * Gravis Ultrasound * X window *

958. Re: Wanted: 10 Ghz Door Opener Sources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: Neil Gjere <ngjere@skypoint.com>
Message-ID: <311535E6.1E43@skypoint.com>
Source record: 107483

billj@calweb.com wrote:
>
> Neil Gjere <ngjere@skypoint.com> wrote:
> >I'm looking for a source of the 10 Ghz Gunns used in Door Openers.
> >I'm specifically looking for Solfans or Other cavities that include a
> >Varactor as well as the Gunn diode in the housing.
> >
> >I have several cavities that have just the Gunns in them, and would like
> >to experiment with other designs.
> >
> >73s,
> >
> >Neil N0PFZ
> I also have GUNN units that have a detector diode. I have found
> that I could bias the diode and use it as a Varactor and get some
> usable FM deviation. I havent seen any alarm units or door openers
> that have the Varactor.
> Bill K7NOM

Most diodes will exhibit Varactor charicteristics when biased properly. The ones that are solely
for Varactor usage are just doped differently vs. detector/rectifier types.

BTW, any sources for those units mentioned in your previous post???

Neil, N0PFZ

959. Re: controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4f2srh$7bs@hg.oro.net>
Source record: 107484

Michael Haydon <mhaydon@olivet.edu> wrote:

>Read an article in april 1962 qst regarding controlled carrier amplitude
>modulation, YES A.M.!!!. anyone tried this technique?

Make my living at it. Are you referring to controlled carrier as in
controlling the RF drive to the final stage or controlled carrier as
in supply half the Vcc to the finals through a modulator that then
swings from ground to Vcc?

> Article was on 40w
>mobile rig. am hoping to put together 300watt or so unit using a pair of
>microwave oven transformers

On what frequencies, and what does a uwave oven transformer have to do
with it?

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak
RST Engineering | for the company. I OWN the cotton-
Grass Valley CA 95945 | pickin' company.
voice/fax 916/272-1432 | AR Adv. WB6BHI Cessna 182A N73CQ
rst-engr@oro.net | Comm'l Pilot & CFI Airplane/Glider A&P Mechanic

960. disregard-test message

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: tmaldred@mail.comox.island.net
Message-ID: <4f35h0$589@cliff.island.net>
Source record: 107485

```
Greetings:

I am trying out some new softeware and this is only a test message
please disregard!

01234567890123456789012345678901234567890123456789012345678901234567890123456789
01234567890
```

961. Feb '96 QST Rotator pal

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: DBerg95252@gnn.com
Message-ID: <4f36uc$9mh@news-e2a.gnn.com>
Source record: 107486

Has anyone completed building the rotator pal and found it to work without modifications. My first attempt at it has been a dud. Seems most of the projects listed in most magizines require a patch to work. Problem is the patch doesn't show up untill several months have gone by.

962. Re: SB-220 BAND SWITCH REPLACEMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: jastorm@ix.netcom.com
Message-ID: <4f3737$hhu@cloner2.ix.netcom.com>
Source record: 107487

"Thomas L. Gaines, Sr." <tgaines@datastar.net> wrote:

>I am looking for a replacement switch deck(wafer) for the SB-220
>amplifier. If anyone has a substitution, plase give me the source.\\

>Tom Gaines/N5ISE

According to QST, parts are still available from the Heath Order Desk
at 616-925-5899/4914.

73, Jim WB6LWS

963. Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: thom@newshost.li.net
Message-ID: <4f3h22$9no@linet02.li.net>
Source record: 107488

Hi and thanks in advance for your help,

I'm about to complete a small transmitter and need something to use as
a dummy load...The rig should put out about 2 or 3 watts so I was
thinking of a power resistor.

However, it is my understanding that a wire-wound resistor will not work
with RF due to the inductance it will produce.

If you have any suggestions as to the what's readiliy available, and of
course economical (!), I'd appreciate your help

tnx es 73
de
Tom
WB2QDG

thom@li.net

964. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: glittle@awod.com
Message-ID: <4f36vg$i0b@harbour.awod.com>
Source record: 107489

In article <823443771.29689@pinetree.microserve.com>, jackl@pinetree.microserve.com (WB3U) says:
>
>First, I want to thank everyone for the excellent ideas and information
>on this subject.
>
>The first two PTO's are back in the rig now and I have had a chance to
>use them on the air for a few days. They seem to have settled down a
>little, or at least they're not showing the same drift characteristics
>as when they were on the test bench. I'm not sure why that is, because
>I was testing them in the rig after each change.
>
>At any rate, the initial, slow warmup drift now seems to be downward
>rather than upward, indicating that some additional compensation might
>be needed. It's not too bad though, and I may leave it as-is. The
>drift that occurs when I begin transmitting (which is aggravated when
>I use my amplifier because it's next to the rig), is still in an
>upward direction.
>
>This may be the result of a temperature gradient across the PTO
>components (I think it was Cliff who mentioned that possibility).
>Short of potting the PTO or installing a heater, there may not be much
>I can do about this. I want to mention that the problem isn't all
>that bad, and maybe I'm just being picky. I was reading an older
>receiver construction article recently titled "An Engineer's Ham-Band
>Receiver", which describes a very well-constructed piece of equipment.
>The author's VFO was built on a custom (heavy) subassembly using a few
>of the parts from a BC-221 frequency meter. When he talks about how
>good the stability is, he describes it as being within 5 ppm per
>degree (Centigrade, I think). Now, if my math is correct, that means
>that at a PTO frequency of approximately 5 MHz, a temperature change
>from 70F to 80F could cause a frequency change of as much as 150 Hz.
>Actually, the PTO's I've already worked on are not be too far from that
>kind of stability at this point, at least for initial drift.
>
>I guess what's bothering me most about this is that my old Yaesu
>FT-101EE was like a rock, despite the fact it was a hybrid. After a
>fifteen minute warmup, I could ragchew for hours on CW without touching
>the dial once. Maybe this was just luck of the draw; some owners I've
>talked to have apparently had major problems with drift in their 101's.
>
>Anyway, the responses to my original question are enough to keep me
>busy reading, checking components and experimenting for several weeks
>or even months. As a possible alternative before I start this project

>in earnest, can anyone tell me whether it's feasible to consider
>replacing the PTO's with 5-5.5 MHz synthesizers? I've missed most of
>the QST/CQ/Ham Radio articles in the last five years so I'm not familiar
>with advances regarding available components. Is it possible to build
>a synthesizer for this application with 10 Hz resolution at a reasonable
>cost, say with two or three chips? Or is this the type of design that
>still requires a fairly complex circuit?
>
>Tnx & 73,
>Jack WB3U

Your drift now may be due to rf heating.
Commercial VFOs use multiple caps in parallel in areas of RF in the
VFO.
This is addressed in the ARRL handbook.
The theory is the RF will distrubute itself across the parallel
caps and reduce the capacitance change due to heating, The heating
is caused by dielectric loss and RF.

Maybe you can get the thing totally settled dowm.

73
Glenn
WB4UIV

965. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: glittle@awod.com
Message-ID: <4f37f9$i0b@harbour.awod.com>
Source record: 107490

In article <4f1eqp$do7@news1.goodnet.com>, ecloud@goodguy (Shawn Ruttledge) says:
>
>While we're on the subject, can anybody identify this MOV (at least I think
>it's an MOV):
>
><triangle symbol>ZNR
>14K201U
><backwards R>U 46
>
>It's black, shiny, looks like a disc cap but is a bit too thick to be one of
>those, and I can see through the coating that the leads bend and go to the
>center of the material. I'd like to find out what the joule rating is for these
>- maybe they'd be useful. I got a bunch of them in a Circuit Specialists
>mystery box. My meter says the capacitance is 878 pF.
>
The ZNR implies that they are made by Panasonic.
Digi-Key sells Panasonic MOVs.
Their catalog should shead some light on the ratings.

201 gives voltage at 200 volts +- 10%
14 is the series surge current is 4500 Amps.
Max allowable voltage ia 130 VAC, 270 VDC

Hope this helps

73
Glenn
WB4UIV

966. Re: MIL VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: Larry Martin <larrym@wco.com>
Message-ID: <4f32ss$dem@news.wco.com>
Source record: 107567
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

opworld@worlnet.fr wrote:
>Hi Jon
>
>> Avantek was acquired by Hewlett Packard. You can still get an catalog of
>> the Avantek products, but you'll have to contact HP for it.
>
>Thanks for answer. I will try to get the right entry to HP because
>when I called HP, here in France, I found only informatic division and
>they don't know other division !
>
>
>Have
>a nice opworld@worldnet.fr
>Day
>
I have heard a rumor that HP/Avantek is getting out of the VCO business.
You may want to try other sources such as Magnum Microwave and
WAtkins-Johnson. HP does have a number of Web sites that you can do a
Yahoo search to find.

Good luck-
Larry

--

_ __ __ _____
| | | \ / | / ___ \ Larry Martin Consulting
| | | \ \ / / | / / _\ Analog - RF - Microwave
| | | |\ \/ /| | | |
| | | | \ / | | | | __ Frequency Synthesizers
| |____ | | \/ | | \ ___/ /
|______| |_| |_| _____/ Voice: 707-829-0633

967. Yaesu FT-530 remote control info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: joe haas <joeh@rollanet.org>
Message-ID: <4f1i4r$etc@gamma.rollanet.org>
Source record: 107568

I am looking for info concerning the fromat of the remote control
data stream used by the Yaesu MH-29(a2b) speaker mic and the FT-530 dual
band
HT. I do not have the aforementioned speaker mic, so I can't "reverse
engineer"
the spec. I want to build a remote control interface for my computer and
need the formats to change frequency, band, etc...

****
* From the desktop of Joe Haas, KE0FF *
****
* FF Systems (314) 368-3716 (voice) *
* P.O. Box 2363 (314) 364-4328 (fax) *
* Rolla, MO 65402 http://www.rollanet.org/~joeh *
* ...Where repeater controllers (and other stuff) are cool... *
****

968. Re: Printer generated transparency problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: 100743.1026@compuserve.com
Message-ID: <4f2lje$3vh@dub-news-svc-4.compuserve.com>
Source record: 107569

JLAN98A@prodigy.com (Kenneth Burtchaell) wrote:

>I am experiecing difficulty in getting a good solid blackening in the
>solid trace areas of PCB layout transparencies on my Okidata OL400
>printer.It has been suggested to me that this might be a electro static
>induced problem . Anybody have any good ideas?
>
> 73 Ken W6GHV

I have been trying to do the same with my KODAK lazer printer.
Generally it is black enough now I have set it darker from the slider
bar in printer setup options in windows 3.1. although the acetate film
I am using goes a bit crinckly through the heated rollers.
Have you any suggestions as to software for making PCB layouts?
Ian G8TLI

Electronics Engineer
Ian White Warrington England 100743.1026@COMPUSERVE.COM

969. Re: controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4f2s7v$5us@news.calweb.com>
Source record: 107570

Michael Haydon <mhaydon@olivet.edu> wrote:
>Read an article in april 1962 qst regarding controlled carrier amplitude
>modulation, YES A.M.!!!. anyone tried this technique? Article was on 40w
>mobile rig. am hoping to put together 300watt or so unit using a pair of
>microwave oven transformers, but am wondwering abt their audio freq.
>response.
>any replies commenting on how much you hate am will be ignored.
>
Check out those transformers before you start. I don't know much about
them but if you look at the iron core you will see a magnetic shunt
between the primary and secondary. Make sure they will do the job
for you before you go too far.
Bill K7NOM

970. Re: controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb4.153405.15476@ke4zv.atl.ga.us>
Source record: 107571

In article <Pine.SOL.3.91.960202225545.8004B-100000@tiger.olivet.edu> Michael Haydon
<mhaydon@olivet.edu> writes:
>Read an article in april 1962 qst regarding controlled carrier amplitude
>modulation, YES A.M.!!!. anyone tried this technique? Article was on 40w
>mobile rig. am hoping to put together 300watt or so unit using a pair of
>microwave oven transformers, but am wondwering abt their audio freq.
>response.
>any replies commenting on how much you hate am will be ignored.

Controlled carrier AM is a lot harder to get to work *right* than
it may appear. It's usually better to just beef up the PA to run
regular plate modulation, or build a high level DSB rig. The latter
is even more conserving of input power, and not really harder to
do than doing controlled carrier correctly.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

971. KITS: Shortwave radio receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: rb67@ix.netcom.com
Message-ID: <4f1577$q46@cloner2.ix.netcom.com>
Source record: 107572

Are there any companies that make a Shortwave radio receiver kit? Heathkit used to, but they are no longer around. Please Email me:

rb67@ix.netcom.com

972. English IC Chip Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-04 00:00:00 UTC
From: Eddie Caffray <cafraye@magnum.wpe.com>
Message-ID: <31158064.4BB3@magnum.wpe.com>
Source record: 107573

I have some Baxall video cameras from Great Britan, model CD6210/24AB.
I need a IC part number NXA1031/103. Wnat to use them for ATV work.

Eddie N2XDS

973. First QRP schematic (description)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4f419j$idg@news-f.iadfw.net>
Source record: 107491

Ok, here goes nothing. I'm trying a small one first. This is a single-chip vfo/exciter from 73 magazine. It has several files, all zipped together into 1. The parts list may not be legible, so I retyped it along with some instructions for the tuning capacitor. If this one works, I'll start sending the others as soon as I get them cleaned up a little better.

I've heard from several guys, if email attatchments work better, I'll do that too, I'm easy! I'll give this a try, be patient, I've never posted a file before. Funny, you get DXCC, but you still don't know how to use a stupid news reader! Here goes nothing, hope it works!

Let me know what you think. The other ones are a 40 and an 80 meter transmitter, and a few odd tx/rx/tranceiver schematics. I'll attatch the schematic to a different file so those who aren't interested won't have to wait on a download!
73,
Kerry
kmiller@airmail.net

974. Zipped schematic files here! - vfo.zip (2/3)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4f41f8$idg@news-f.iadfw.net>
Source record: 107492

<uuencoded_portion_removed>

975. Zipped schematic files here! - vfo.zip (3/3)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4f41f9$idg@news-f.iadfw.net>
Source record: 107493

```
<uuencoded_portion_removed>
;,2Y46%102P4&``````0`!`#>````;3\!````
`
end
```

976. Modify cell phone to transceiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4f4igt$3t@reader2.ix.netcom.com>
Source record: 107494
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,sci.electronics.design

Seems I've read on one of the newsgroups a while back of modifying a cell phone into a transceiver. I picked up a couple of Motorola cell phones for next to nothing at a "junk" store the other day thinking they were transceivers (the handset was missing so I didn't know exactly what they were <g>).

Anyone know if this is possible? And how do you go about it?

Thanks for any help you can give me!

John
KE6TGN

977. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4f3qet$ehi@cc.iu.net>
Source record: 107495

In article <823443771.29689@pinetree.microserve.com>, jackl@pinetree.microserve.com says...
>
>
much deleted....

>Anyway, the responses to my original question are enough to keep me
>busy reading, checking components and experimenting for several weeks
>or even months. As a possible alternative before I start this project
>in earnest, can anyone tell me whether it's feasible to consider
>replacing the PTO's with 5-5.5 MHz synthesizers? I've missed most of
>the QST/CQ/Ham Radio articles in the last five years so I'm not familiar
>with advances regarding available components. Is it possible to build
>a synthesizer for this application with 10 Hz resolution at a reasonable
>cost, say with two or three chips? Or is this the type of design that
>still requires a fairly complex circuit?
>
>Tnx & 73,
>Jack WB3U

As a synthesizer designer, I'd say to be careful. I really think it's so much easier to design a bad synthesizer than a bad PTO, that I wouldn't recommend going that route. Unless you want to read up on and learn about PLL design as a new hobby, in which case go for it.

That said, I think I'd look long and hard at a DDS for this job. Use a TCXO for the source, and get one of those CMOS DDSes that will handle at least a 20 MHz clock. Wrap a good tight BP filter around it, and it seems like a good approach.

Any reasonable approach using regular PLLs would entail at least a couple of loops, and be fairly complex, IMO.

73,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

978. Re: Arizona Microschip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <4f3uu1$dr3@news.asu.edu>
Source record: 107496

In a previous article, cbuttsch@biggulp.callamer.com (Clifford Buttschardt) says:

>Recently, I ran across a reference to Arizona Microchip devices which was
>interesting. Does anyone have an address or a clue as what they
>manufacture? I suspect it might be a "STAMP" product but I am not
>sure. They have a development kit available too.
>Cliff Buttschardt W6HDO Morro Bay, Calif
>
This probably refers to Microchip Technology. They make microcontroller
chips and do have several development kits available. I don't have the
address or phone number, but the main offices are here in Chandler, AZ on
Chandler Blvd.

--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

979. Zipped schematic files here! - vfo.zip (0/3)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4f41cv$idg@news-f.iadfw.net>
Source record: 107497

Here's the first one, hope it works! Single chip exciter/vfo, has
another drawing to allow use of an alternate chip.
73,
Kerry

980. Zipped schematic files here! - vfo.zip (1/3)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4f41e4$idg@news-f.iadfw.net>
Source record: 107498

```
begin 644 vfo.zip
<uuencoded_portion_removed>
```

981. Re: wrinkle paint

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823526669.21059@pinetree.microserve.com>
Source record: 107499

This is slightly off the subject, but I wanted to mention something that might help someone who's painting a cabinet but doesn't want wrinkle paint.

I recently built a custom desk for my ham shack and I needed to match a light gray formica finish on some other office furniture in the same room (as per instructions from XYL). The paint I used was Dutch Boy Floor and Porch polyurethane enamel, custom mixed to match the color.

I brushed on two coats but the paint was very thick and it refused to completely level (even though it took six or seven hours for the surface to dry). What I ended up with was a lot of brush marks and streaks on an otherwise nice-looking desk.

Another application method was needed, but due to winter weather, it was impossible to load up my spray gun and take the piece outside. Finally, I went back to the hardware store and purchased several mini-size 3" paint rollers intended for trim work. I used these to apply a third coat to the piece, and that coat not only hid the previous faux pas, it left a great-looking textured finish.

I have since tried this paint on a small aluminum panel, using the same application technique but sanding the panel with 100-grit first. The result was a terrific semi-gloss finish with a *light* texture that looks like an expensive powder-coat paint job. After a week or so, the surface becomes so hard it's almost impossible to scratch unless you're really trying to damage it.

Anyone wanting to paint or repaint a piece of equipment owes this method a try. The materials are cheap and the resulting finish is tougher than many spray enamels (and much tougher than lacquer). Clean-up is simple too - throw away the roller and put the lid back on the can. This is one of the few ways I know to produce a genuine high-quality finish at home without commercial-grade equipment. With just a little care, it should last the life of the equipment.

73,
Jack WB3U

982. Re: Ham-Homebrew Digest V96 #28

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: "Walt W.", dfheli@gramercy.ios.com
Message-ID: <4f532a$bn1@news.ios.com>
Source record: 107500

Hello KC5RBM,

Use a web crawler to search for the info you need. A really good
search engine that I have found is run by DEC and is called
SuperSpider, at URL:

http://altavista.digital.com

I would suggest that you use the keywords "HTML" AND " Web Page",

Try the above string. There are so many sources that it is difficult
to list them.

A very good book can be had at BookStar book stores for
around $25, "HTML Publishing on the Internet", by Heslop & Budnick,
and is published by Vantena Press.

ISBN1-56604-229-1.

In addition to learning to write in HTML which is the language of
web page/home page construction, you might also consider CGI
and later Perl.

Good luck,

73's
Walt Williams
dfheli@gramercy.ios.com

> hts@thor.NET writes:
>
>
> <---- Begin Forwarded Message ---->
> From: hts@thor.net
> Subject: Re: Ham-Homebrew Digest V96 #28
> To: Ham-Homebrew@UCSD.EDU
>
> I want to make a homepage. I don't know how? Where can I read in the internet
> that teach how to construct a home page?
>
> KC5RBM.
> <---- End Forwarded Message ---->
>
>
>>>>

983. Toner Transfer System?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: "Steven A. Bailey" <bailey@skipjack.net>
Message-ID: <4f4vgh$s9i@shore4.intercom.net>
Source record: 107501

Has anyone ever tryed this 'Toner Transfer System'
by DynaArt Designs for PCB creation?

Thanks,

Steve

WF3O

984. Wanted: info on ASI Satellite Controlled Clock

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: kbanke@qualcomm.com
Message-ID: <kbanke-0502960659560001@kbanke-mac.qualcomm.com>
Source record: 107502

At a flea market I picked up a Satellite Controlled Clock model1026B made by Arbiter Sysytems Inc. I'm looking for any general info on this unit as I'd like to fire it up if practical. The front end appears to be tuned for the 470 MHz range so I'm wondering if it really uses a satellite in this range or if it uses a down converter at the antennna. Any info would be greatly appreciated.
- Kerry N6IZW -

985. Re: Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: wi5s@startext.net
Message-ID: <4f63pc$85k@lepton.startext.net>
Source record: 107503

I'm about to complete a small transmitter and need something to use
as
>a dummy load...

A #47 pilot lamp bulb works fairly well. On most SeaLand ships, the HF RF is passed through a couple of 100 watt household bulbs which offer lightening protection. It is crude, but it works well. Of course, at 2 watts, a 52 ohm resistor will work well. In fact, it will work up to about 5 watts intermittant duty as long as it's carbon as most 2 watts and less are. You could also parallel several larger resistors and get away with it. At HF and even lower VHF frequencies, it is not too critical. Radio shack sells a dummy load of about 15 or 20 watts, but that costs about $20.00 and really isn't necessary.

986. Re: TT 22 Valve

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960205185125.5361E-100000@biggulp.callamer.com>
Source record: 107504

Does anyone know of an American replacement for the TT 22 tube? It appears to be a sweep tube of some sort. A pair is used in a marine SSB radio made in Denmark. Alternately, a source for the tube in the USA would be appreciated. Cliff Buttschardt W6HDO

987. Re: Wanted: 10 Ghz Door Opener Sources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4f5cu2$6as@news.calweb.com>
Source record: 107505

Neil Gjere <ngjere@skypoint.com> wrote:
>billj@calweb.com wrote:
>>
>> Neil Gjere <ngjere@skypoint.com> wrote:
>> >I'm looking for a source of the 10 Ghz Gunns used in Door Openers.

>BTW, any sources for those units mentioned in your previous post???
>
>Neil, N0PFZ

Well Neil I have a few extras and I think there are a hundred or so
in town at a dealer in scrap. Also I think there are some in a scrap
metel yard but they have been out in the rain. These units are not
the SOLFAN type and use a PILL type diode. How many do you want?
The price would vary depending on who supplies them. I paid $1.00 each
from the metal dealer (before the rain came).
Bill K7NOM

988. Be a Radio Disk Jockey!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: arnd2it@aol.com
Message-ID: <4f68c2$p1r@newsbf02.news.aol.com>
Source record: 107506

Need a Job? Be a Disk Jockey!

There is a nationwide Radio Disk Jockey SHORTAGE. There's never been a better time to break into the business. A new booklet written by a radio station manager will give you step-by-step instructions to becoming a Radio
Station Disk Jockey. Don't have a big, deep voice? Don't let that stop you!
Teach yourself to talk on the radio and write effective radio advertisements.
Working at a radio station is rewarding and FUN! If it's part time work you
need, radio is perfect because every radio station needs dependable part timers! The money is good, the hours are flexible and the work is so much fun it should be called "play!"

Your dream could come true! For information write to ARnd2it@aol.com

A Round Toit Enterprises

989. Re: 82 Repeater in Kansas City/Repeater Use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4f5amh$e3t$5@mhadg.production.compuserve.com>
Source record: 107507
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Where is the Shadow or Green hornet when we need them?
--
73, Jay WB0VNE - AAV5TH

990. Re: Thordarson Xfmr Specs sought

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-0502961733100001@tom-dunn.caltech.edu>
Source record: 107508

> I've run across two NOS Thordarson power xfmrs, but
> have no data on their specs. The part number is
>
> T-92R21
>
> If some kind soul has a post-WWII Thordarson catalog,
> I'd appreciate a copy (costs supported, of course),
> or at least the parameters of this particular xfmr.
>
> Thanks and 73 de WB6BYH
>

Well the catalog from my file does not show any Thordarson part # begining with a single letter "T". I also checked a Traid cross reference for Thordarson part # and no "T" either. I found a Thordarson 26R21 in thier catalog. It's a 350v CT at 225 Mils with 5v at 3 amps 6.3 at 10 amp and 6.3 at 2.7 amps. Size is 4.75H X 3.75W X 4.5" , Weight is 11.5 lb. The Thordarson catalog I have is OLD. It list thier phone number as 1200 in Mt. Carmel Illinois. That right only 4 digits. If the Xformer above is not close to the size you have give me some specks, and I'll see if I can find a match. 73 Tom

dunnt@starbase1.caltech.edu

991. Re: Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <31161DD3.18BF@jpaw.com>
Source record: 107509

Thom wrote:
>
> Hi and thanks in advance for your help,
>
> I'm about to complete a small transmitter and need something to use as
> a dummy load...The rig should put out about 2 or 3 watts so I was

snip....

If you have any suggestions as to the what's readiliy available, and of
> course economical (!), I'd appreciate your help
>
> tnx es 73
> de
> Tom
> WB2QDG

A few 2 W (or 1 W) carbon composition resistors in parallel (say two 100 ohms, 2 W) will fix you up. Use short leads and don't expect perfection at 144 MHz, but it will be adequate for most transmitter testing. Ask your friends to look in their junk boxes. These resistors are now a couple of dollars each, with a minimum order of 25 from Newark.

de K9GXC, Jim

992. Want dual jack assembly for spkr-mic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-05 00:00:00 UTC
From: "Michael M. Butler" <buck@satyr.sylvan.com>
Message-ID: <4f60ql$7jd@isp.net>
Source record: 107510

I've got a couple of aftermarket MFJ-285 speaker-mics that have a 2-conductor mini plug and a *3*-conductor micro plug. I'm looking for a source for the compatible dual jack assembly. Anyone know of a source? Thanks...

Michael M. Butler buck@satyr.sylvan.com

993. Re: controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: Michael Haydon <mhaydon@olivet.edu>
Message-ID: <Pine.SOL.3.91.960206174310.12263C-100000@tiger.olivet.edu>
Source record: 107424

What is the purpose of a magnetic shunt? will admit to knowing precious
little abt transformer theory. Lots of enthusiasm though. Your further
input welcomed.

On 4 Feb 1996 billj@calweb.com wrote:

> Michael Haydon <mhaydon@olivet.edu> wrote:
> >Read an article in april 1962 qst regarding controlled carrier amplitude
> >modulation, YES A.M.!!!. anyone tried this technique? Article was on 40w
> >mobile rig. am hoping to put together 300watt or so unit using a pair of
> >microwave oven transformers, but am wondwering abt their audio freq.
> >response.
> >any replies commenting on how much you hate am will be ignored.
> >
> Check out those transformers before you start. I don't know much about
> them but if you look at the iron core you will see a magnetic shunt
> between the primary and secondary. Make sure they will do the job
> for you before you go too far.
> Bill K7NOM
>
>
>

994. Re: VOX Circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: Michael Haydon <mhaydon@olivet.edu>
Message-ID: <Pine.SOL.3.91.960206174530.12263D-100000@tiger.olivet.edu>
Source record: 107425

Send me a sase and will draw one four you.
Mike Haydon
RR#1 Box 132
Crescent City, Ill. 60928 OOPs! for you

On 5 Feb 1996, joseph c. hawkins wrote:

> Any sample VOX circuits or info of where to get info would be greatly
> appreciated.
>
> Thanks
>
>
>
>

995. NP0 vs. C0G Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4f8m9j$ddp@usenet.continental.com>
Source record: 107426

I'm seeing conflicting information on the technical specifications (i.e., temperature coefficient) of NP0 and C0G capacitors. Some sources indicate they're identical; others show slight percentage differences between the two. Is there a formal EIA specification for these two types?

Jordan's "Reference Data for Engineers," seventh edition lists ceramic capacitors in their respective EIA classes but not in terms of a three digit designator.

-Paul, N9AZ

996. Re: phone patch project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: Jim <jdd@cellnet.com>
Message-ID: <4f8gcp$rs3@mirrors.cellnet.com>
Source record: 107427

dll@chattanooga.net (David Lawson) wrote:
>Does anyone know where I can search for an acoustic coupler? You know; the
>modem used in the movie "Wargames" that required you to physically set the
>handset down on it. Please respond by E-mail.
> Thanks,
> KF4EBP

You see them at swap meets, hamfests, and the like.

Jim, WU0I

997. WTB: TOWER/ANTENNAE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: "Ros St. John" <rstjohn@ghgcorp.com>
Message-ID: <311848D0.5624@ghgcorp.com>
Source record: 107428

Hi. Due to a tornado, my tower and antennae are now junk.

STATE FARM INSURANCE REFUSES TO PAY CLAIM!!!!! BEWARE!!!!

I am looking for a used TRI-EX/HYGAIN LM-354 tower or at the very
least, the center section thereof.

Want used HYGAIN TH-7DXS OR TH-11.

Want used CUSCHCRAFT 2 METER BOOMER.

Want M2 1.2 gig atv antenna.

Want AEA OR M2 434 mhz. atv antenna.

Thank you.

W5BRY, Ros.

my email is rstjohn@ghgcorp.com

998. radio direction finding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: pguello@wpo.uwsuper.edu
Message-ID: <pguello.307.0@wpo.uwsuper.edu>
Source record: 107429

I'm looking for technical information about radio direction finding
eauipment. Can anyone suggest where to look. I am especially interested in
how automatic direction finders work.
Thanks, Paul.

999. GARAGE CLEAR OUT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: rondoc@west.net
Message-ID: <4f82d9$a5o_001@sb.west.net>
Source record: 107430

look at http://www.west.net/~rondoc/clearall
I have some old tek scopes and project boxes plus loads of new
small 120-240 - low volst transformers let me know I may have what you need.

1000. 913 or 2AP1 CRT?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: Bruce Bostwick <lihan@ccwf.cc.utexas.edu>
Message-ID: <4f8jbv$imm@geraldo.cc.utexas.edu>
Source record: 107431

Willing to either buy one, or barter whatever you find listed in
http://ccwf.cc.utexas.edu/~lihan/tube_catalog.html is worth one, for a
project I'm planning. I've already (maybe) located a 2AP1 and a 2BP1,
but got pointed here from news:sci.electronics.misc by someone that
said I might have more luck here.

Email link available on my home page. Thanks! ;-)

<BGB> http://ccwf.cc.utexas.edu/~lihan/

1001. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerk-0502961808280001@10.0.2.15>
Source record: 107432

In article <823084973.2216@pinetree.microserve.com>,
jackl@pinetree.microserve.com (WB3U) wrote:

> I have four identical PTO's in solid-state rigs that I've been trying
> to stabilize, with only limited success. Maybe someone with more
> experience in this area can help me out.

[long contorted story deleted]

Jack, it seems you have to isolate the PTOs from any source of changing heat, like your transmitting temperature change. This may be an additional approach to your transmitting problem.

Back to your effort to make the PTO temperature proof... maybe you should make every cap (including feedback caps) an NP0/C0G -- and check them for low drift by holding a soldering iron near them while listening! After withdrawing the iron (its mere proximity, hot or not, will of course move the frequency), see which way the heat moved it as you hear it settle back.

The more elements you have going in different directions at different rates, the more complicated it is :-). So eliminate as many of them as you can.

Then let it cool real good (hours), and make your from-cold-start drift evaluation, and temperature sensitivity evaluation... Then experiment with only ONE capacitance leg for the proper compensation.

Is there a varactor diode in there for offset tuning? Remember that this has a POSITIVE TEMP COEFFICIENT OF CAPACITANCE -- that is, increasing cap. with temperature, thus a freq. drift down, all other things being equal. You can get Motorola bulletin AN551 for detailed info on compensating this aspect, if present -- faxback service at <http://motserv.indirect.com/>

> There's not much left for me to do, other than trying to find some
> type of linear, positive-coefficient capacitor. Mallory does
> manufacturer them (disc type SL), but they're apparently difficult to
> come by. Also, I've already spent a considerable sum on polystyrene
> capacitors and I'm reluctant to buy additional specialized capacitors
> after my results with the NPO's.

Test those NP0's, like I said -- not all are created equal, unless you have precise specs from a reliable manufacturer. Even then a little heat check wouldn't hurt in the operating circuit :-). And if you really need a + tempco, well, find a silver mica or whatever in your junk box that drifts in the right direction! Again, test with your trusty iron... why pay more?!

Just a few random thoughts... And what PTO's are you talking about?

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
<http://www.lehigh.edu/lists/qrp-l/k0jd/index.html>

1002. Re: 82 Repeater in Kansas City

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <DMDLpI.Iv@pe1chl.ampr.org>
Source record: 107433
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <4ete1q$b0o@bcarh8ab.bnr.ca> ddenter@bnr.ca (Dean Denter) writes:

>Every radio has a "unique" pattern when you key it (due to differences
>in the components etc), this pattern can be used to identify a radio.
>There is no encrypted signal or anything that fancy.

I have my doubts about the uniqueness of the pattern generated by
same-type transmitters... and the stability of the pattern as a
function of temperature, time etc.
But it seems another sub-thread starts to discuss this.

Rob
--
+-----------------------------------+--------------------------------------+
| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+--------------------------------------+

1003. Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: bingalib@emirates.net.ae
Message-ID: <4f7g7g$ecl@ns2.emirates.net.ae>
Source record: 107434

Hi....

I am trying to build an amplifier for the HF BANDS 25-35 mhz
generally..... any one knows how ???

Seger Binghalib

bingalib@emirates.net.ae

1004. Re: Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: Jim Strohm <"Jim Strohm"@ausq1ak>
Message-ID: <4f87so$bd8@newsgate.sps.mot.com>
Source record: 107435

The simplest QRP dummy load uses a 2-watt carbon resistor soldered
inside a PL-259. Drill a hole in a penny and solder the penny
to the connector and to the resistor lead.

It's best to use a 51-ohm resistor but a 47-ohm will work fine.
You should have the PL 259 and the resistor in your junk box.
(You math-heads, go figure the SWR and the impedance bump.)

These dummy loads work well past VHF frequencies and handle 2 watts
at 100% duty cycle, with a peak well above that. I never burned one
out when modifying CBs for 10 meters.

A 1-watt or 1/2-watt resistor may work, but it's not recommended
for power > 0.5 watts. Max operating frequency is lower, too.

Old-timers will recall that a light bulb works for a test load
and can give a relative power indication -- these radiate RF and do not
provide a matched load, but they will work if it's all you've got.

OK, everybody flame me now. N6OTQ

1005. 7910 MODEM CHIPS WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: djl102@unix.york.ac.uk
Message-ID: <4f7mjg$o4r@netty.york.ac.uk>
Source record: 107511
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,sci.electronics.components

Hi all,

does anyone have any 7910 or 7911 modem chips for sale. Either the AMD or SGS Thompson variety?

E-Mail with the details please. Thanks.

--
Regards,
David Linsley - Electronics Student, York England
Internet: djl102@unix.york.ac.uk Packet Radio: G7RAW@GB7CYM.GBR.EU
WWW: http://www.york.ac.uk/~djl102 Dragon Home Page!

Dragon 64:Dosplus & OS/9 LI, Sony PlayStation, Amiga1200, 486DX2/66:Linux
Spectrum 48K, 3*ZX81, Z88, Atom, Einstien, Atari VCS, CoCo 2, 7*Dragon 32
Enterprise 64

1006. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: cj@algonet.se
Message-ID: <4f827k$kbf@prometheus.algonet.se>
Source record: 107512
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@algonet.se

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.algonet.se/~cj/losa.html

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
New Contribution [ ] Update [ ]
-----------------------------------------------------------------------------
```

```
Title :
Author: Date:
E-mail: (optional)
---------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
---------------------------------------------------------------------
Description : (5-50 rows describing your application)

=====================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer
```

1007. Re: SB-220 BAND SWITCH REPLACEMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: "Thomas L. Gaines, Sr." <tgaines@datastar.net>
Message-ID: <4f7iqe$4j@alterdial.UU.NET>
Source record: 107513

Tnx to Tom and Jim for the response.

73, Tom Gaines/N5ISE

1008. 7910 MODEM CHIPS WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: djl102@unix.york.ac.uk
Message-ID: <4f7mpj$o8k@netty.york.ac.uk>
Source record: 107514
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Hi all,

does anyone have any 7910 or 7911 modem chips for sale. Either the AMD or SGS Thompson variety?

E-Mail with the details please. Thanks.

--
Regards,
David Linsley - Electronics Student, York England
Internet: djl102@unix.york.ac.uk Packet Radio: G7RAW@GB7CYM.GBR.EU
WWW: http://www.york.ac.uk/~djl102 Dragon Home Page!

Dragon 64:Dosplus & OS/9 LI, Sony PlayStation, Amiga1200, 486DX2/66:Linux
Spectrum 48K, 3*ZX81, Z88, Atom, Einstien, Atari VCS, CoCo 2, 7*Dragon 32
Enterprise 64

1009. Re: 7910 MODEM CHIPS WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: David Chapman <dave@chassis.demon.co.uk>
Message-ID: <823642118snz@chassis.demon.co.uk>
Source record: 107515
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,sci.electronics.components

Hi David...

> does anyone have any 7910 or 7911 modem chips for sale. Either the AMD or
> SGS Thompson variety?

I have one brand new AM 7911 DC chip which I would willingly donate to help a good cause. If you consider that you are one <G>, then send me a stamped addressed envelope (see my web site) and I will send it back by return post.

BTW, I also have a built-up modem from a Wireless World design which uses, I think, a 7910 chip. It is built on their approved PCB and cased with a 240v PSU. It worked when I last used it some years ago. If that is of any interest I am open to offers.

ATB - Dave

--
David C.Chapman - Chartered Engineer. FIEE. (dave@chassis.demon.co.uk)

CHAPMAN ASSOCIATES is a Consultancy offering practical expertise and design skills in the fields of counter-surveillance, electronic protection and security. Visit our Web site at http://www.ant.co.uk/~chassis/

1010. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-0602960633290001@squaw-d118.sierra.net>
Source record: 107516

A crystal based digital frequency source may be possible with some increase in elaboration over one or two chips, and the result could well be more stable than the PTO, however the digital noise (and phase noise) of the modification will probably (almost certainly) be a step backwards, and there may be also a new host of idiosyncratic components to characterize in ways you never thought possible.

Good Luck.
Bob T.

1011. SB220 HELP NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: edosan@ix.netcom.com
Message-ID: <4f7ul9$bks@reader2.ix.netcom.com>
Source record: 107517

I have a Heathkit SB 220 amp that has a problem with the high voltage
power supply. Every time I key down, the high voltage drops considerbly.
I have heard that the HV supply leaves a lot to be desired and that the
tubes in the amp are not running at their real potential. Does anyone
have any info on how to improve the HV supply in this amp?
I suspect that the caps may be old. Does this sound like it could be
the problem?
Any help would be welcomed.

Thank you.......KC6HVI

1012. Re: 82 Repeater in Kansas City/Repeater Use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: sparkfel@primenet.com
Message-ID: <4f803e$cc5@nnrp1.news.primenet.com>
Source record: 107518
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

no6b@no6b.jpl.nasa.gov (Robert Dengler) wrote:

>Here's what a local repeater club in So. Cal. did:

>-Changed the status of their repeater from 'open' to 'private', so that only
> club members are 'supposed' to use it.

>-Got a restraining order prohibiting the undesired user from using the
> repeater.

>The restraining order was enforced & the undesired user was forced off the
>repeater, along with lots of 'good' non-member users.

>Bob NO6B

Bob,

That is a little extreme, although a popular route to take in some coastal states like CA and NY. I can not tell you how annoying it is to travel to California and find so many closed repeaters and closed autopatches. I, for one, would not continue to support the Arizona Repeater Association, if they closed their repeaters or autopatches.

The ARA has about 1100 dues paying members, and all our repeaters and FIVE autopatches in central Arizona are open to ALL licensed amateurs. Please feel free to use them when you are visiting Phoenix. BTW it's gonna be 80 degrees and sunny here today! I hope all you people in the rest of the US are enjoying your snow and record cold temperatures!

Also, please feel free to use the ThunderBird ARC repeater when in NW Phoenix on 145.43 (-) (no pl). :) We need a better antenna, so it's range is limited, for now. For those of you who are familiar with the area, this repeater is located on Phoenix General Hospital, I-17 and Beardsley Rd.

Mark Fellhauer
KC7BXS
TBARC Packet Coordinator

1013. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: hsd@vmei.acad.bg
Message-ID: <9602061929.AA12078@amigo.acad.bg>
Source record: 107519

Hi !
I'm interested in make-it-yourself metal detectors. I need a description and schematics for such devices. Somehow I tend to trust the British magazine Practical Electronics , but I have access to issues up to 1990. In July and October 1988 issues there are such articles, but they are missing. The central Science and Technology Library In my country has no extra magazines. Any PE readers or someone who can access searchable databases holding past issues of PE, please help.

PS-I hope this group accepts non-ham-related questions as well

Thank you
Christo
Bulgaria

1014. Kits, where to find

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: Jim Fellows <jimf>
Message-ID: <4f8jmr$sde@murrow.corp.sgi.com>
Source record: 107520

Subject pretty much says it all. I'm looking for sources of good quality kits for VHF/UHF amplifiers, preamps and transverters.

Thanks,

Jim

1015. Homebrew 160 Meter Vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: ham@msg.ti.com
Message-ID: <ham.48.0121B620@msg.ti.com>
Source record: 107521
Cross-posted to: ti.rec.radio,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

To anyone interested in homebrew antennae:

The following is an excerpt from EMail I sent to some K5OJI club (Texas Instruments ARC, Dallas) members interested in planning, modeling, and building a balloon-lifted vertical wire antenna for 160 Meters. This is to become a proposed antenna design specification for an antenna to be hoisted for Field Day '96. We welcome any hints, kinks, and suggestions for improvements in design, cost reduction, and payload minimization.
****
(on 5 Feb 1996, at 23:26z, Bil Morrison modulates:)

While at Texas Towers Monday, I invested in the ARRL's "Vertical Antenna Classics"book. I am taking some of the basic formulas and interpolating as necessary. Here is what I have computed:

Assuming what we want is a top loaded vertical, operating at 1/4 wavelength or 90 electrical degrees (we will use electrical degrees in order to use the LC constants nomigraph included in this book). The practical physical limit for top loading is considered as approx. 30 electrical degrees when applied to a disk (capacity hat). [ref: Laport, Radio Antenna Engineering, McGraw-Hill, Inc., 1952, p. 80].

In order to determinethe physical length of this theoretical antenna that uses the full limit of top loading, subtract 90 from 30. I then convert the resulting 60 degrees to feet by using this equation:

Lenth (in feet) = 2.73 X L (L = length in degrees)

---
f
MHz
= 91 ft

[ref: Dept. of Navy: Naval Shore Electronics Criteria: HF Radio Antenna Systems, Naval Electronics Systems Command, Washington, DC]

Okay, that's the easy part. Next step is to figure in the diameter of the 'mast'. In our case, I will chose an arbitrary value of 0.05 inches for #12 guage stranded wire, which is probably presumptuous. I will recalculate as necessary. What we need to do now is compute the 'conjugate impedance and 30 degree top-loading dimensions for an open-ended transmission line' <pant-pant>. Here is the equation [ref: Jasik, Antenna Engineering Handbook, McGraw-Hill, Inc., 1961, p. 19-3]:

Zo = 60 ([ln (2h) - 1] / a)

where ln = natural log (2.3
times common log),
h = height of vertical
'mast' in inches = 1092
a = radius of 'mast' in
inches = 0.05

= 581 ohms characteristic impedance

The 'Classics' book refers to a set of 'universal reactance curves' for open and shorted transmission lines. Where the 30 degree mark hits the open line curve, the value is 1.7, and is referred to as X / Zo. Since we have already calculated Zo as 581, multiply that times 1.7, and the result is 988 ohms reactance for 30 degrees top loading. All theoretical, of course <grin>.

Next, we must find our hat size. Here is where the LC constants and the nomigraph come into play. We place our ruler on the 1.8 MHz mark, and the other line to intersect at approx. 988 ohms, we find a crossing at about the 92 pf capacitance line.

The 'Classics' book also refers to the diameters of spheres, disks, and cylinders as a linear set of lines. Their sample of the graph would not go out to any further than a 60 inch disk. To get a capacity hat of 92 pf, we would need about a 105 inch, or 8.75 ft diameter hat. That's no Easter bonnet!! At this point, I must presume we would need some awsome fiberglass rods to make this work. Might I suggest REI as a source?
Maybe I will *loan* my tent poles for this grand experiment <g>.

The book goes on to describe a practical application, whereupon a six-sided wagon-wheel design was used, with the spokes terminated with #14 copper wire, which 'will increase the capacitance slightly'. Hope so, 'cause we can only launch so many pounds.

Now we get into ground radials. I don't even want to begin the calculations for this unless I assum a nominal design using 4 x .25 wavelength radials at 130 ft. ea. My guess is that we can come up with enough wire to set out 12 to 16. There is a whole chapter in the 'Classics' book regarding radials, so that will have to be another memo. From what I can tell, we'd be doing great at Field Day if we could put out 48 radials, which is optimum for 'poor' ground conditions. That means we could get 6 people to lay down 8 radials each. Good luck!

Back to conjugate impedance. We must now refer to the radiation resistance vs. antenna height in degrees curve [ref: ARRL, Vertical Antenna Cassics, p. 9]. For 90 degrees, we get 36 ohms radiation resistance. Here is where 'Classics' estimates a radial ground system loss resistance of 4 ohms for 60 radials, each .2 wavelengths long, for a total resistive value of 40 ohms. Boy, aren't we presumptuous today?

Back at the universal reactance curve, 90 electrical degrees yields a reactance value of zero. Therefore, the feedpoint impedance is:

Z = 40 plus/minus j0 ohms

I *think* this means we have a pretty close match using 52 ohm RG-213.
Going back to the radial system, we will try & understand what a 14 foot
piece of welded-wire fence lying down in the dirt will do to our ground system
(14' x 4').... someother time.

Here are the burning questions for the day. How many pounds will a 12' x 8'
surplus wx balloon, inflated with two full-size tanks (approx. 240 CF/tank)
of helium, carry to a height of about 100 feet into the air? We are presuming
at this point that fishing line would be used to tether the balloon in place
in order to maintain constant tangency above ground.

We want to determine how heavy guage wire can be used for the vertical. For
that matter, if we hoist the entire 90 degree electrical length, I assume it
will eliminate the need for a capacity hat.

73,

Bil Morrison, KK5AO 1979 Yamaha XS750SF (Vroom)
Texas Instruments 1976 Yamaha RD250 (Wing-ding)
Email: ham@msg.ti.com
"Everything I like is either illegal, immoral, or fattening".
Std. disclaimer: TI doesn't speak for me, I don't speak for them

1016. re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9601068236.AA823643768@mail.creo.bc.ca>
Source record: 107522

Jack WB3U wrote:

> Anyway, the responses to my original question are enough to keep me
> busy reading, checking components and experimenting for several
> weeks or even months. As a possible alternative before I start this
> project in earnest, can anyone tell me whether it's feasible to
> consider replacing the PTO's with 5-5.5 MHz synthesizers? I've
> missed most of the QST/CQ/Ham Radio articles in the last five years
> so I'm not familiar with advances regarding available components. Is
> it possible to build a synthesizer for this application with 10 Hz
> resolution at a reasonable cost, say with two or three chips? Or is
> this the type of design that still requires a fairly complex
> circuit?

PLLs can be a can of worms in an application like this, but modern DDSs work well and are reasonably cheap. I'm currently experimenting with a DDS VFO based on a Qualcomm Q2220 DDS chip, which tunes in 3.7 Hz steps (55 MHz clock, 24 bit phase accumulator). It lends itself well to experimental playing around, since the programming inputs are parallel - you can even program it with DIP switches if you want!

The DDS article was in 73 a while back (Techno Whizzy - Dec '92?), while the microcontroller stuff is a custom TTL interface, a Basic Stamp microcontroller, an LCD display and a shaft encoder.

See also Technical Topics in the February 1996 issue of RadComm - there is discussion of combining DDSs and PLLs to make a VFO that combines the best of both worlds. If you don't want to go that route, tight filtering will still give good results over a smallish frequency range.

How about sweeping the DDS over the frequency range of interest, and if any particular frequencies show really nasty spurii, disallow them in the microcontroller?

Be prepared for significant power consumption (mine draws 190 mA), and be prepared to shield the thing well. Use *lots* of bypassing: I found that 1206 and 0805 chip capacitors are exactly the right size to nestle down in between PC board traces. You can get a PC board for the DDS from FAR; my microcontroller/interface board is currently a wire-wrapped rats nest.

The Analog Devices DDS chips (e.g. AD7008) are also handy, but are more expensive than the Qualcomm chip. They are serially programmable and have both sine and cosine ROM, both of which could be very useful.

Laura Halliday VE7LDH
lhalliday@creo.bc.ca
ve7ldh@amsat.org
Locator: CN89mg

"C'est une femme mutine, assez elegante, grave et legere, ayant le sens du confort et du plaisir en tout." - C. Deneuve

1017. Re: controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-06 00:00:00 UTC
From: Michael Haydon <mhaydon@olivet.edu>
Message-ID: <Pine.SOL.3.91.960206173614.12263B-100000@tiger.olivet.edu>
Source record: 107523

160 and 80 meter ham bands, using method where in modulation is supplied
to two sources, one of which is rectified and filter and supplies the Vcc
and the other supplies the modulation, system is CLAIMED to provide 100%
modulation for any audio input level. using microwave oven transformers
because i have two that are identical lying around
Thanks for your input and any constructive criricism is welcome.

On Sun, 4 Feb 1996, Jim Weir wrote:

> Michael Haydon <mhaydon@olivet.edu> wrote:
>
> >Read an article in april 1962 qst regarding controlled carrier amplitude
> >modulation, YES A.M.!!!. anyone tried this technique?
>
> Make my living at it. Are you referring to controlled carrier as in
> controlling the RF drive to the final stage or controlled carrier as
> in supply half the Vcc to the finals through a modulator that then
> swings from ground to Vcc?
>
> > Article was on 40w
> >mobile rig. am hoping to put together 300watt or so unit using a pair of
> >microwave oven transformers
>
> On what frequencies, and what does a uwave oven transformer have to do
> with it?
>
> Jim
>
>
> Jim Weir VP Engineering | You bet your sweet patootie I speak
> RST Engineering | for the company. I OWN the cotton-
> Grass Valley CA 95945 | pickin' company.
> voice/fax 916/272-1432 | AR Adv. WB6BHI Cessna 182A N73CQ
> rst-engr@oro.net | Comm'l Pilot & CFI Airplane/Glider A&P Mechanic
>
>
>

1018. Thordarson T92R21 Transformer Specs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: bk296@FreeNet.Carleton.CA
Message-ID: <DMDv49.KJw@freenet.carleton.ca>
Source record: 107436

According to Thordarson catalogue #400CX (Spring/Summer 1939), this transformer is a metal cased, general purpose power transformer:

Primary VA - 150

Secondary - 800 VAC CT @ 150 ma
5 VAC @5A
6.3 VAC CT @ 5A

Dimensions - 4 1/4W x 3 3/4D x 4 7/8H

Weight - 9 lbs

Hope this is of help.

1019. Re: MIL VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: stevebragg@aol.com
Message-ID: <4fajtj$g13@newsbf02.news.aol.com>
Source record: 107437
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Sir (name not given),

Avantek is the correct name. They have since sold out to Hewlett-Packard,
and given up the VCO business. I've used the Avantek VCO's for 3.5 GHz,
and they're really nice and linear. Sigh.
Oh, well, there are other sources.

The engineering company I work for uses such VCO's, and here are a couple
places we get them:

Z-COMM
9939 Via Parar
San Diego, CA 92126
(619) 621-2700

Mini-Circuits
Div. of Scientific Components
P.O. Box 350166
Brooklyn, NY 11235-0003
(718) 934-4500

I'm not sure what freq range you're looking for, but both of these
companies provide high-quality linear VCO's from about 150 MHz to at least
3.5 GHz. I personally have used the Z-COMM parts for 1296 MHz weak-signal
work, and they're relatively cheap ($10-$24 as of about 1 year ago).

The Z-COMM folks were really friendly and willing to sell me only one
VCO (which some places like Mini-Circuits won't do). Call them for
a catalog.

Mini-Circuits has stuff to 1240 MHz, for less than $20. Best of luck!

73,

Steve Bragg, KA9MVA
http://members.aol.com/SteveBragg/private/ka9mva

1020. Re: Need VCO, 1-2 gHz - circuit or off-shelf

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: stevebragg@aol.com
Message-ID: <4fakhq$gaf@newsbf02.news.aol.com>
Source record: 107438
Cross-posted to: aus.electronics,aus.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.components

Steve,

Z-Communications in USA will sell you a single piece part. I personally have built a 1296-MHz synthesizer around their VCO, and they are quite linear and predictable. Z-COMM has VCO's to at least 2.4 GHz, and they are in the US$10 to US$25 price range (13.40 to 33.50 Aussie $, 1992 exchange; sorry, it's the most current rate I have). Write or call them at:

Z-Communications
9939 Via Pasar
San Diego, CA 92126 USA
USA TEL (619) 621-2722

Best of luck, and let me know how it comes out.

Steve Bragg, KA9MVA
Stillwater, Oklahoma, USA
E-Mail: steveb@fesi.com or SteveBragg@aol.com
Web Page: http://members.aol.com/SteveBragg/private/ka9mva
USA Tel: (405) 377-8288

1021. Re: radio direction finding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Dave Booth <booth>
Message-ID: <4f9dp2$oq0@nntp.crl.com>
Source record: 107439

here is a company that has been around for a while. they have a lot of neet
stuff at VERY good prices!!!!!!!!
take a look.
http://home.navisoft.com/agrelo/page11.htm
http://home.navisoft.com/agrelo/ae.htm

have fun de dave booth kc6wfs
http://www.lookup.com/Homepages/65348/home.html

1022. Re: Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4faa5h$de9@newsbf02.news.aol.com>
Source record: 107440

In article <31161DD3.18BF@jpaw.com>, Jim Potter <jpotter@jpaw.com> writes:

>
>A few 2 W (or 1 W) carbon composition resistors in parallel (say two 100
>ohms, 2 W) will fix you up. Use short leads and don't expect perfection
>at 144 MHz, but it will be adequate for most transmitter testing. Ask
>your friends to look in their junk boxes. These resistors are now a
>couple of dollars each, with a minimum order of 25 from Newark.
>
>de K9GXC, Jim
>
>

Hi All,

Everything thing Jim says is true, but I want to add a little bit. We had a big discussion about this a few months ago.

True non-inductive carbon and metal resistors are very rare, and the one and two waatters can be very reactive at VHF and UHF. Our plant goes directly to Allen-Bradley for them and pays about $.30 each for non-inductive carbon comps in 5000 lots.

Just because the resistor is carbon or metal based (rather than wire wound) it does not mean it's "non-inductive". As a matter of fact, even if the resistor specs say "non-inductive" it may not be suitable for some RF applications. Non-inductive is a very nebulous term.

Cut a sample resistor open and examine the insides (or measure it on a good analyzer). If it uses a ceramic core with a metal or carbon spiral for the resistance element....it is inductive. If it is made that way (and nearly off shelf units are) it may be ok for a load, or it may not. It will likey be very poor in a critical load like a parasitic supressor.

73 Tom

1023. HELP FT-225 or 221 AM Rx Improvement

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Buster <lathrop@azstarnet.com>
Message-ID: <4fap41$9ki@news.azstarnet.com>
Source record: 107441

Anybody know a modification for the FT-225 or 221
to improve AM reception?

Please respond via e-mail

Buster, KC7KMJ
lathrop@azstarnet.com

1024. Re: Toner Transfer System?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <DMEr97.Frt@freenet.carleton.ca>
Source record: 107442

"Steven A. Bailey" (bailey@skipjack.net) writes:
> Has anyone ever tryed this 'Toner Transfer System'
> by DynaArt Designs for PCB creation?
>
I've used the stuff from Meadowlake Corp, and it works OK.
You just have to be careful to apply the "right" amount of
heat and pressure.

One end of the spectrum is an incomplete xfer, the other is
"spreading" of the artwork.

1025. Re: Schematics going to a web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4faim2$7ll$1@mhafn.production.compuserve.com>
Source record: 107443

Hi Kerry, there has been a lot of talk about posting schematics on the net. Some of the talk has been how (what format) some has been a lot of bandwidth of the legalities. I'm more interested in the how. In my mind a schematic should be in a machine readably format that can be "used". So not in GIF, TIFF etc type "Paint" formats. Sure you get the info from one place to another but if you send me a GIF file of a really neat QRP rig that I want to build I start by reentering it from scratch. Thus I term all paint type files as Engineering Napkins. You know, like in the old days when the CAD operator was a draftsman and the engineer was not involved in that stage. A better approach is to use some electronic format that includes the parts, connections and can create a netlist. One other desired feature is ASCII format so we can send it back and forth without UUEncoding etc. My (highly Jaded) view is to use CIRCAD. It meets all of the above and the program also works with OrCAD, Tango, Protel, ACAD and other files. The demo is free so everyone can view files. The demo also lets you write (aprox 32K) files so we can all exchange small files cheaply. So, thats my 2 cents worth. Thanks for the new WEB Site!
--
73, Jay WB0VNE - AAV5TH

1026. Re: Interface information for LCD display

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4faitu$7ll$2@mhafn.production.compuserve.com>
Source record: 107444

I'm not sure but I'm pretty sure that this type of display works a lot like
a TTY unit. Simple ASCII in (with some command handshaking) and you get
text. Everyone everywhere appears to use the same chipset which is
(I tink) the same ones you mentioned. I've written some assembler programs
to drive them from a printer port. The printer port works on except in the
4 bit mode (for unknown reasons) but it lets you try things out. Note that
the Doc for these things is awful hard to digest. Working code is worth it
weight in gold so when you get depressed E-Mail me or better yet send a SASE
and I will slip you a disk. Oh better yet send the disk!
--
73, Jay WB0VNE - AAV5TH

1027. Re: Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4faunq$avs@peabody.colorado.edu>
Source record: 107445

From Jim Strohm@ausq1ak Wed Feb 7 12:22:29 MST 1996

>[snip]
>These dummy loads work well past VHF frequencies and handle 2 watts
>[snip] ^^^^^^^^^^^^^^^

>OK, everybody flame me now. N6OTQ

I'll bite...

"VHF frequencies" = very high frequency frequencies

Bruce, N6URH

1028. Where can I find GPS protocol format?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: fredkuo.bbs@csie.nctu.edu.tw
Message-ID: <4fa5qa$39n@news.csie.nctu.edu.tw>
Source record: 107446

I want to DIY a GPS receiver. I am familiar with spred-spectrum systems, but no idea about the protocol of GPS signals. Is there any ftp site that I can get a detail information about the signal format? Or, is there any tecnical book has the detail description of GPS signal? Thanks in advance!

fred kuo
BV3DH, fredkuo@eve0.mxic.com.tw

1029. Re: VOX Circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: kirkland@bnr.ca
Message-ID: <4face7$6mp@bcarh8ab.bnr.ca>
Source record: 107447

Check the ARRL handbooks from the late 80s to possibly the early 90s. There is a VOX circuit in there using LM3900 current feedback op amps. I've built it and it works O.K. There is an error in the schematic regarding the 555 timer that is used. The schematic shorts out part of the 555 timer. The effect of this is to distroy part of the 555 timer. However, if the short is removed (I bent the offending pin up) the 555 timer will still do the job. If you check the 555 timer data sheet the error in the schematic will hopefully become obvious.

Bill Kirkland
VE3JHU

1030. Re: Poor Man's Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Michael Haydon <mhaydon@olivet.edu>
Message-ID: <Pine.SOL.3.91.960207164115.25143B-100000@tiger.olivet.edu>
Source record: 107448

built poor mans pkt modem abt 3yrs ago and still use it as my only packet modem, do not know where you could find one now. mine was built during a ham club session. however, JAMECO elect. sell a vary similar kit for 34.95 gud luck

On Wed, 7 Feb 1996, chris coupland wrote:

> Looking for a project article titled "Poor Man's Packet" found in the
> August 1991 (pg. 8) of `73: Amateur Radio Today'.
> Any help in locating this would be greatly appreciated.
>
> Also looking for other info concerning one chip packet modems to use
> in a project. It will be used to send async serial data one way to a
> remote PC. Thanks.
>
> Chris.
>
>
>

1031. Re: Help With MOV's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <4f9jkr$9iu@delta.misha.net>
Source record: 107449

ecloud@goodguy (Shawn Ruttledge) wrote:

>While we're on the subject, can anybody identify this MOV (at least I think
>it's an MOV):

><triangle symbol>ZNR
>14K201U
><backwards R>U 46

>It's black, shiny, looks like a disc cap but is a bit too thick to be one of
>those, and I can see through the coating that the leads bend and go to the
>center of the material. I'd like to find out what the joule rating is for these
>- maybe they'd be useful. I got a bunch of them in a Circuit Specialists
>mystery box. My meter says the capacitance is 878 pF.

>--
> _______ KB7PWD @ KC7Y.AZ.US.NOAM ecloud@goodnet.com
> (_ | |_) html: http://www.goodnet.com/~ecloud
> __) | | ____
>* OO * Khoros * Linux * robotics * techno * Gravis Ultrasound * X window *

Check the Digikey catalog. Look for equivalent sizes. Also do a
leakage check to find out at what voltage they 'zener.' 1mA of
current vs voltage.

Simon

1032. Re: SB-220 BAND SWITCH REPLACEMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4fb65g$53f@usenet.continental.com>
Source record: 107450

w8jitom@aol.com (W8JI Tom) wrote:
>In article <4f28pv$c1a@alterdial.UU.NET>, "Thomas L. Gaines, Sr."
><tgaines@datastar.net> writes:
>
>>
>>I am looking for a replacement switch deck(wafer) for the SB-220
>Improper loading is by far the biggest cause of switch failure.
>
>73 Tom

C'mon Tom...We all know that VHF parasitics are the #1 cause of band
switch failure. <g>..

-Paul, N9AZ

1033. Re: controlled carrier AM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: larson@loren.net.com
Message-ID: <4fba3s$8c0@unet.net.com>
Source record: 107451

In article <4f2srh$7bs@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:

>Make my living at it. Are you referring to controlled carrier as in
>controlling the RF drive to the final stage or controlled carrier as
>in supply half the Vcc to the finals through a modulator that then
>swings from ground to Vcc?

How does this latter choice differ from being essentially plate
(collector) modulation?

Alan

1034. Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Ference Kish <fkish@attila.mtx.net.net>
Message-ID: <NEWTNews.823681677.16889.fkish@attila.mtx.net.au>
Source record: 107452

Hi!

I've just started reading Chris Bowick's RF Circuit Design.

I quite like it and recommend it to others, however, there is something that is puzzling me.

On pages 34 and 35 the book discusses the loaded Q of a resonant circuit; explains the effect of the source and load resistance on the Q of the tuned circuit.

Where I got a bit confused is Eq 2-6 onward. Bowick says that the Q of the circuit is

Q = Rp /Xp

where Rp is (Rs * Rl) / (Rs + Rl) and Xp is the inductive/capacitive reactance, Rs and Rl are source and load resistance respectively.

No worries so far.

Then he goes on saying that if we want to optimize the Q of the tank circuit with source/load resistance fixed we need to change Xp thru' the L or C of the circuit. Fair enough.

No comes the tricky bit: He than concludes (if I've read it correctly) that the best way of doing this is by INCREASING the capacitance...

I'm not an expert, I'm just starting of, however, from what I heard and tried before, it seemed to me that increasing the L is the better way.

I thought the more inductance we have the better the Q of the tuned circuit will be.

Mathematically he seems correct if one looks at his example:

changing from L=50nH, C=25pF to L=2.5nH and C=500pF @142.35Mhz the Q

of the second combination seems higher (load resistance of 50R).

Could someone enlighten me, have I misread anything?

regards, ference, fkish@attila.mtx.net.au

1035. Poor Man's Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: ccouplan@direct.ca
Message-ID: <4f971p$msa@aphex.direct.ca>
Source record: 107453

Looking for a project article titled "Poor Man's Packet" found in the
August 1991 (pg. 8) of `73: Amateur Radio Today'.
Any help in locating this would be greatly appreciated.

Also looking for other info concerning one chip packet modems to use
in a project. It will be used to send async serial data one way to a
remote PC. Thanks.

Chris.

1036. Re: Morse code to text display wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: jpryan@westnet.com
Message-ID: <4fafb7$ja0@mycroft.westnet.com>
Source record: 107454
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc

There are two more programs that I am aware of.
The first was published in 73 magazine with source it is called ROBOCOPY.
This one is a copy/read only program with source in "C".

I have also used a program called CW version 1.04 based on the robocopy
program. This one was written by W0NFU, has no source code with it, runs
on an IBM PC.
Both of these programs require a seperate interface to your HF rig.

N2IKO >>>

In message <NEWTNews.822989963.13882.fkish@attila.mtx.net.au> -
Ference Kish <fkish@attila.mtx.net.net> writes:
:>
:>
:>> >
:>> >Hi. My dad is a Ham operator, and asked me if there were some
:>> inexpensive
:>> >way to have incoming Morse code automatically translated and displayed
:>> on
:>> >a CRT. Since I know nothing about Ham radio, I thought I'd post here.
:>
:>There is a program called MORSEFFT which you should be able to find on the net
:>(use ARCHIE to find the site storing it)
:>
:>It needs a sound blaster card as an input device. It comes with C source code,
:>too
:>
:>

1037. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Antonio Howell <howell@utsw.swmed.edu>
Message-ID: <4fb50u$k5v@swsu65.swmed.edu>
Source record: 107455

Looking to buy a scanner that has been fixed to get all the
cellular channels. Please write me if you know where I can
find one

1038. Repair: Memorex 4010 TV

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: john@anawave.com
Message-ID: <john-0702961302280001@host15.cyberg8t.com>
Source record: 107456

I have a Memorex TM-4010(made for Tandy) Screen TV(for ATV) that has
recently lost it picture and Sound.

I checked fuses on the power supply and one near the Flyback transformer.
I feed video and audio from a VCR to the "F" connector on the back.
Nothing. I then tried feeding audio and video from the RCA jack on the VCR
to the RCA jacks on the TV. I then get audio but no video.

My first guess is the tuner has died. Is there anything else I should try
before buying a tuner?

Where is a good source for TV tuners?

73 de John KN6LH (714)-324-6320

```
-------------------------------------------------------
| AX25: KN6LH@K6VE.#SOCAL.CA.NA.USA |
| tcp/ip: kn6lh@kn6lh.ampr.org |
| Internet: john@anawave.com |
| kn6lh@anawave.com |
| URL: http://www.anawave.com/~kn6lh |
| Snail Mail: John Fay |
| P.O. Box 1271 |
| Claremont CA 91711 |
| |
-------------------------------------------------------
```

--
73 de John KN6LH

```
-------------------------------------------------------
| AX25: KN6LH@K6VE..#SOCAL.CA.NA.USA |
| tcp/ip: kn6lh@kn6lh.ampr.org |
| Internet: john@anawave.com or |
| kn6lh@anawave.com |
| http://www.anawave.com/~kn6lh |
-------------------------------------------------------
```

1039. Schematics going to a web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4f9a50$ovu@news-f.iadfw.net>
Source record: 107457

Hello again, guys!

Well, I asked before I posted the schematic and got many good suggestions about where/how to post the schematics. Now that I've posted the first one, everyone has been very helpful except for a few flames from those who didn't appreciate me using up the bandwidth in the newsgroup. I knew it might be a hardship on some folks, that's why I asked first! Wish they'd have said something before I did it!

To accomodate those who don't want them on the newsgroup, I'll be sending them to a gentleman who offered to put them on his QRP web page. When I finish cleaning up the scans, I'll send him the files and you can find them there when he has time to upload them.

If there is anyone who doesn't have access to a web browser or can't get to them, let me know and I'll put the drawings into one big zip file and send them via email. The whole lot of them will be around 250Kb, so it won't be unbearable.

Hope this works, I'm sending this note with Eudora and I've never tried making a mailing list before! I'll drop a note on the newsgroup for anybody who misses it. Thanks for your patience and suggestions.

The web page to watch belongs to:

John R. Cunliffe N2NEP
cunliffe@frontiernet.net
http://www.frontiernet.net/~cunliffe

Keep an eye out for it, maybe the schematics will appear there in the next week or so. Make a bookmark!
73,
Kerry Miller

1040. Re: COIL WINDING PROGRAM (freeware Win95 only)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: "Mr. Brooke Clarke" <brooke@pacific.net>
Message-ID: <4f9kpa$64l@pacific.pacific.net>
Source record: 107458

What exactly are you looking for in a "coil winding program". I can give
you some simple calculator formulas depending on your needs.

Have Fun,
Brooke
N6GCE

1041. vfo.zip file attachment corrupted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: pierre@fildir.unimi.IT
Message-ID: <v02130500ad3e7b1fbd77@[194.21.198.12]>
Source record: 107459

Hi all !

I received from the Mailing List a corrupted file... i tried to fetch it
twice from my server, but having always the same modem.
Can anyone of you send it again to me, please ?

Thanks a lot !

- Pierpaolo -
e-mail pierre@fildir.unimi.it

____
Pierpaolo Sardelli
E-mail: pierre@fildir.unimi.it

1042. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-07 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4fb7ab$53f@usenet.continental.com>
Source record: 107460

Jack:

Additionally, you may want to read Wes Hayward's article in the December, 1993 issue of QST, entitled, "Measuring and Compensating Oscillator Frequency Drift."

-Paul, N9AZ

1043. ? Low-/Bandpass for 144MHz and 432MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <311A1E19@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 107327

Hello,

I was looking for a long time for designs do built tube amplifiers for 144MHz and 432MHz which are able to carry my GS35B providing some kW output. Now I found suitable and they are just under construction. The days ago I thought about the third harmonics and I think I need some lowpass or bandbass filters.

Of course I know that caveties are the best, but they are too heavy. I would need some designs using standard L/C combinations. For the input I need filters which can run with about 200W, so some standard designs could be used. But for the output I need designs which are able to carry 4kW. I remember a design from ON5FF for his 2*3CX800 144MHz amp, he uses heavy silver plated copper tube as inductance and short pieces of semi rigid as capacitances.

My question: do you know anything else, especially for 432MHz?

NB: A simple calculation told me that if I have say 40dB suppression of the third harmonic and 4kW output it is 0.1W at the harmonic... This should be suppressed additionally about 10-20dB.
And: If I have 0.5dB loss that is 435W loss... Some people would be happy if they could reach the power that I would loose, hi. If I allow 100W loss in the output filter thats about 0.1dB and 50W about 0.05dB, so insertion loss should be below 0.1dB

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
DL4MEA@AMSAT.ORG (Internet)
HTTP://WWW.SCN.DE/~KOELLNER (WWW)

1044. Re: Arizona Microschip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDMIu9u.57w@netcom.com>
Source record: 107328

in <4f6b9o$qba@stealth.mindspring.com>, Jeff Otterson wrote:
: ballnt@aztec.asu.edu (John Ballentine) wrote:
: >In a previous article, cbuttsch@biggulp.callamer.com (Clifford Buttschardt) says:
: >>Recently, I ran across a reference to Arizona Microchip devices which was
: >>interesting. Does anyone have an address or a clue as what they
: >>manufacture? I suspect it might be a "STAMP" product but I am not
: >>Cliff Buttschardt W6HDO Morro Bay, Calif

: Check out http://www.ultranet.com/biz/mchip for all your microchip
: questions. All the data sheets, development tools and manuals are
: there, and the price is right!

Also www.parallaxinc.com for the web page for the makers of the
Basic Stamp.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1045. HELP SC filter IC's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: andy_w@sn4707.oldham.gpsemi.com
Message-ID: <4fcgi0$qsg@nnews.Oldham.Gpsemi.Com>
Source record: 107329

Does anyone have any information on a couple of switched capacitor filter IC's the S3529 and S3528 which are made by a company called AMI. They are highpass and lowpass filter IC's. I'm really looking for data sheets and also for a distributor in Great Britain.

The chips are used in an audio filter designed by G3ISD which appeared in the BARTG magazine datacom in autumn 1989/ January 1990. I believe that a kit for the design was available at the time. Is it still available?

Any help would be appreciated.

Andy Wright G4OJY

e-mail andy_w@oldham.gpsemi.com

1046. 813 Xmtr for 160M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: mannd@candw.com.ai
Message-ID: <287cc$63336.319@luzskru.cpcnet.com>
Source record: 107330

I would very much appreciate any advice or opinions about constructing a crystal controlled cw-only transmitter for 160 meters. I have 2 brand new 813's and sockets, lots of other "junk box" parts. My idea is to have a very simple but high power cw transmitter to use for cw QSO's around 1.835mhz. If there is another "window" for 160M that I should use (like for JA's), perhaps I could come up with a 2 crystal design.

Thanks in advance es 73's
Dave, VP2EHF

1047. TM-742

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: John.Klingelhoeffer@comsat.com
Message-ID: <4fbm4r$c40@dub-news-svc-1.compuserve.com>
Source record: 107461

Ok, I'll bite. I have a TM-742.

1048. Re: radio direction finding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-0702962112100001@amber1.ultranet.com>
Source record: 107462

In article <pguello.307.0@wpo.uwsuper.edu>, pguello@wpo.uwsuper.edu (Paul Guello) wrote:

> I'm looking for technical information about radio direction finding
> eauipment. Can anyone suggest where to look. I am especially interested in
> how automatic direction finders work.
> Thanks, Paul.

Paul,

There's a fairly good introdution to RDF in the '94 ARRL Handbook for Radio Amatuers.

Cheers,

Jon

1049. Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: Tom.Turnbull@durham.ac.UK
Message-ID: <v01510100ad3fe20ff392@[129.234.2.1]>
Source record: 107463

HELP

1050. Re: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.51.311A46F5@ornl.gov>
Source record: 107464

In article <NEWTNews.823681677.16889.fkish@attila.mtx.net.au> Ference Kish
<fkish@attila.mtx.net.net> writes:
>Path: stc06.ctd.ornl.gov!fnnews.fnal.gov!uwm.edu!spool.mu.edu!munnari.OZ.AU!news.mel.conn
ect.com.au!harbinger.cc.monash.edu.au!ns.saard.net!news.adelaide.edu.au!curlew.mtx.net.au!
usenet
>From: Ference Kish <fkish@attila.mtx.net.net>
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Anyone else read Bowick's RF circuit Design?
>Date: Wed, 07 Feb 96 08:06:53 GMT
>Organization: Microtronics Information Systems
>Lines: 49
>Message-ID: <NEWTNews.823681677.16889.fkish@attila.mtx.net.au>
>NNTP-Posting-Host: attila.mtx.net.au
>Mime-Version: 1.0
>Content-Type: TEXT/PLAIN; charset=US-ASCII
>X-Newsreader: NEWTNews & Chameleon -- TCP/IP for MS Windows from NetManage

>Hi!

> I've just started reading Chris Bowick's RF Circuit Design.

> I quite like it and recommend it to others, however, there is something that
> is puzzling me.

> On pages 34 and 35 the book discusses the loaded Q of a resonant
> circuit; explains the effect of the source and load resistance on
> the Q of the tuned circuit.

> Where I got a bit confused is Eq 2-6 onward. Bowick says that the
> Q of the circuit is

> Q = Rp /Xp

> where Rp is (Rs * Rl) / (Rs + Rl) and Xp is the inductive/capacitive
> reactance, Rs and Rl are source and load resistance respectively.

> No worries so far.

> Then he goes on saying that if we want to optimize the Q of the tank
> circuit with source/load resistance fixed we need to change Xp thru'
> the L or C of the circuit. Fair enough.

> No comes the tricky bit: He than concludes (if I've read it correctly)
> that the best way of doing this is by INCREASING the capacitance...

> I'm not an expert, I'm just starting of, however, from what I heard and
> tried before, it seemed to me that increasing the L is the better way.

> I thought the more inductance we have the better the Q of the tuned circuit
> will be.

> Mathematically he seems correct if one looks at his example:

> changing from L=50nH, C=25pF to L=2.5nH and C=500pF @142.35Mhz the Q
>
> of the second combination seems higher (load resistance of 50R).

> Could someone enlighten me, have I misread anything?

> regards, ference, fkish@attila.mtx.net.au

You might consider that increaseing the inductance also may increase the
series resistance of the coil.

Danny

1051. FS: Monster Amplifier Plate Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <4fd043$976p@rs2.ccd.harris.com>
Source record: 107465

I am re-building my 3-1000 amplifier into a table-top cabinet and am rebuilding the power supply also. I am getting rid of the plate transformer. It is built for Gates Radio and is about 6,600 volts @ 1 amp, or 3,300 volts @ 2 amps. I use it at 3300v for a 3-1000. This brute weighs probably 80 to 90 pounds and is about 18" X 9" X 20" high. Asking $100. I'll drive an hour or two to meet you. Or you can pick it up and see it in service first. If you are planning on going to the Orlando hamfest the weekend of 17 February, I can meet you there.

Doug, N4IJ dsnowden@ccd.harris.com
Palm Bay, Florida
(407) 984-9360 after 6pm est

--
Doug Snowden
dsnowden@ccd.harris.com

1052. FS: HyGain TH-3, near new

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: dsnowden@ccd.harris.com
Message-ID: <4fd0fc$8ghs@rs2.ccd.harris.com>
Source record: 107466

This antenna was up last field day for the weekend, and has never seen
any other service. I have a spare trap, the instruction manual, a few
spare trap end caps, and asst. hardware. It is presently partially
assembled (elements and boom). I can leave it that way to save a person
the trouble of re-assembling it. This is in very good shape. I bought
it from a guy that had stored it in his garage and never assembled it.
I am getting rid of it because I don't have room for it on the tower.
I presently have a 3 el 20m monobander up. Meet me at the Orlando hamfest
17-18 February, or other arrangements. $125

Doug, N4IJ dsnowden@ccd.harris.com
Palm Bay, Florida (407) 984-9360 after 6pm est

--
Doug Snowden
dsnowden@ccd.harris.com

1053. FRG9600 Recieves HF??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: "Michael G. Reiney" <mreiney@hevanet.com>
Message-ID: <4fckjm$rhr@vista.hevanet.com>
Source record: 107467
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I've been poking around in my Yaesu FRG9600 receiver. Nominal range is 60-965 MHZ. There's a control line labeled /OPTION. When you ground it, the display tunes from Zero to 999.999 MHZ. This line goes to the connector to a missing and undocumented option. There's a place for another antenna connector also going to this option slot. The BAND module has three extra outputs labeled HF1, HF2 and HF3.
Looks like there might have been an option to extend the coverage down to HF.

Was this option available elsewhere? Can documentation be obtained? Has anyone tried to reverse engineer this and build such an option?

I'm also looking to buy the TV option.
I need the Vacuum Fluroescent display. Mine is busted.

Thanks, Miker
NM7U

1054. Re: 813 Xmtr for 160M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4fdpkf$ve@crash.microserve.net>
Source record: 107468

mannd@candw.com.ai (Dave Mann) wrote:

>I would very much appreciate any advice or opinions about
>constructing a crystal controlled cw-only transmitter for 160 meters.
>I have 2 brand new 813's and sockets, lots of other "junk box" parts.
>My idea is to have a very simple but high power cw transmitter to use
>for cw QSO's around 1.835mhz.

Can't tell you much about the windows on 160M, but a pair of 813's will provide 1KW input on CW. RCA's recommendation for these tubes was +2,250V on the plate and +400V on the screen.

You can either key the cathode of the finals (by means of a center-tapped filament transformer) or the oscillator itself. If you key only the stages ahead of the final, you'll need either a bias supply, about -160V, or a clamper tube in the screen circuit. Alternately, you could use grid-block keying and key the oscillator, driver(s) and final simultaneously (preferred, in my opinion).

Depending on the layout, the 813's may or may not need neutralization and/or parasitic suppressors. Also, either push-pull or parallel operation would be fairly easy to implement due to the single-band design.

This transmitter will be operating straight-through, so be sure all stages, particularly the oscillator, are well-shielded from the high-level energy at the final.

73,
Jack WB3U

1055. Re: QRP Schematics scanned and ready!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: heiss@ualr.edu
Message-ID: <heiss.43.0048263F@ualr.edu>
Source record: 107469

In article <4f0sru$as8@news-f.iadfw.net> kmiller@airmail.net (Kerry W. Miller) writes:
>Path: news.ualr.edu!quapaw.astate.edu!hookup!news.sprintlink.net!news.comm.net!imci5!suck-feed.internetmci.com!news.internetMCI.com!newsfeed.internetmci.com!in1.uu.net!news.iadfw.net!usenet
>From: kmiller@airmail.net (Kerry W. Miller)
>Newsgroups: rec.radio.amateur.homebrew
>Subject: QRP Schematics scanned and ready!
>Date: Sat, 03 Feb 1996 23:58:35 GMT
>Organization: customer of Internet America
>Lines: 15
>Message-ID: <4f0sru$as8@news-f.iadfw.net>
>NNTP-Posting-Host: dal21-27.ppp.iadfw.net
>X-Newsreader: Forte Free Agent 1.0.82

>Hi guys, I finally got the schematics scanned today. They need a
>little cleaning up, but they're about ready. I'm open for
>suggestions, should I post them here, somewhere else, or just e-mail
>them to whoever wants them. Does anybody mind if I post them here?
>Is there a proper place to post a schematic? They are bmp's now,
>would .jpg's be better?

>All these dumb questions from a newbie poster! I don't even know for
>sure I can post them, but I'll try it somewhere first.
>Thanks,
>Kerry Miller
>kmiller@airmail.net
>WD5ABC

Hi Kerry:

I think here is as good a place as any to post them. Personally I would
prefer JPEG's. I would start with one and see what kind of response you get.
They should be uuencoded first.

Good Luck
Larry Heiss@ualr.edu
KC5CVL

1056. Dream Come True

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: eeebyjeeby@aol.com
Message-ID: <4fdh6i$ipj@newsbf02.news.aol.com>
Source record: 107470

SAVE NOW!! FILE IS TOO LONG TO BE READ!
Subject: $$$$$$$ is to be had on-line !!!!!
From: RHeyworth@aol.com 101471.2477@compuserve.com
Date: 2nd Feb 1996 10:30:14pm

>Read this message carefully (PRINT IT OUT!!)
>It tells you how to make as much as $50,000 (fifty thousand dollars)!
>It's EASY. It's LEGAL. And your investment is only $5.00
>READ ON....
>**********
>IMPORTANT:
>This is not a rip-off; it is not indecent; it is not illegal;
>IT IS NOT TAX EVASION! The 'risk' -IF YOU CALL IT A RISK - is only $5,
>and it really works!!!
>
>$$
>
>The following is an extract from the original letter
>(shortened to save space)
>
>...I will never have to work again. Today I am rich! I have earned
>over $400,000 to date ad will become a millionaire within 4 or 5 months.
>Anyone can do the same. This money making program works perfectly every
>time, 100% of the time.

>I have NEVER failed to earn $50,000 or more whenever I wanted...
>(The author then goes on to say how skeptical he was when he first
>received a letter telling him about this system.
>Then, one day when he was working on his computer....)
>...I read several of the message posts and then glanced at the letter
>next to the computer. All at once it came to me, I now had the key to my
>dreams.

>I realized that with the power of the computer I could expand and
>enhance this money making formula into the most unbelievable cash flow
>generator that has ever been created. I substituted the computer bulletin
>boards in place of the post office and electronically did by computer
what
>others were doing 100% by mail. If you believe that someday you deserve
that
>lucky break that have waited for all your life, simply follow the easy
>instructions below. Your dreams WILL come true!
>
>Sincerely yours,
>Dave Rhodes

>
>$$
>INSTRUCTIONS:
>
>PLEASE NOTE: Please follow these instructions EXACTLY, and $50,000
>will be yours in 20 to 60 days.
>
>This program has remained successful because of the HONESTY and
>INTEGRITY of the participants.
>Please continue it's success by carefully adhering to the instructions.
>>

THE BEGINNING
>You're now in the Mail Order business, But, in this business your
>product is not solid and tangible, it's a SERVICE. You are in the
>business of developing MAILING LISTS. Many large corporations are
>happy to pay big money for quality lists. (However, the money made
>from the mailing lists is secondary to the income which is made from
>people like you and me asking to be included in that list.)
>
>1. Mail $1.00 (American Please) to each of the first five names listed
>below starting at #1 through #5. Send cash only please (total
>investment $5.00 + postage). Enclose a note (wrap the $1 bill with it)
>giving your NAME AND ADDRESS and stating...
"Please add my name to your mailing list."
>(YOU ARE REQUESTING A LEGITIMATE SERVICE AND YOU ARE PAYING FOR THIS
>SERVICE)
>
>2. Remove number 1 name on the list. Move all the other names up one
>position. (Number 2 will become #1 and so on) . Put your own name,
>address, zip (Postal Code) and country in the #10 position.
>
>3. Post the new letter into 10 separate bulletin boards. Call the
>massage anything appropriate like "Money Fast" or "Make $50,000 "
>
>4. 60 days later you will have received over $50,000 in cash.
>
>You are in the mail order business and people will be sending you
>$1.00 to be placed on your mailing list. This list can then be rented
>to a list broker (look in the yellow pages) for extra income on a regular
>basis. The list will become more valuable as it grows in size.
> THIS IS A SERVICE!!
>
>This is perfectly legal. If you have any doubts, refer to Title 18
>Sec. 1302 & 1341 of the Postal lottery laws.
>
>IT IS NOT TAX EVASION BECAUSE YOU ARE A LEGITIMATE MAILING LIST PROVIDER
> (Using the addresses sent wrapped around the Dollar)
>
>You can keep a copy of this report for yourself and, whenever you need

>money, you can use it again.
>
>BUT......PLEASE REMEMBER that this program has remained successful
>because of the honesty and integrity of the participants and by their
>carefully adhering to the instructions.
>
>Look at it this way. If you are honest, the program will continue and
>the money that so many others have received will come your way. If, for
>some reason, you are dishonest, YOU will feel the effects and lose out on
>this great opprutunity.
>
>Note: You SHOULD retain EVERY name and address sent to you, either on
>a computer or hard copy and keep the notes people send you. This is
>PROOF that you are TRULY PROVIDING A SERVICE!
>(Also, it might be a good idea to wrap the $1 bill in dark paper to
> reduce the risk of mail theft.)
>
>So, as each post is downloaded and the instructions carefully
>followed, five members will be reimbursed for their participation
>as a List Developer with one dollar each. Your name will move up the
>list geometrically so that when your name reaches the #5 position you
>will be receiving thousands of dollars in CASH!!!
>What an opportunity for only $5.00 ($1.00 for each of the first five
>people listed below) Send it now, add your own name to the list
>and you're in business.
>
>*TIP: Alter list accordingly...(Save as Money$.txt)
COPY all the (Money$.txt) text & PASTE into EMail: Mail around!
Into Local BBS, Forums, Libraries, Messages, Newsgroups, Contacts etc.
(APPROX 10-15 locations NOT INCLUDING-Individuals)

>$$
>
>HERE IS THE LIST:

>1 Greg Perry,
> P.O. Box 70392, Las Vegas, NV 89170
>
>2 Jim Long,
> 1979 Canterbury Dr, Las Vegas, NV 89119
>
>3. Forrest West,
> 821 N. Valleywood Cir. Chattanooga,Tn. 37343
>
>4. Cody Landry,
> 2458 N 9th #46, Laramie, WY, 82070
>
>5. Todd Schager
> 1108 Sawmill Rd. Brick, NJ. 08724
>
>6. Dan Maibor

> 24 Andrea Drive Canton, MA 02021-3403
>
>7. Ben Mattes
> 5324 Waverly Montreal, Quebec. H2T 2X7
>
>8. Dan Collins
> 55 Burtis Ave. Rockville Centre, NY 11570
>
>9. Ben Brownell
> 120 E Bonita #112 Claremont, Ca 91711-6330
>
>10. Ryan Heyworth
> Higher Slade House.
> Slade Lane Padiham, Lanc's, U.K BB12 9AA
>**********
>The following letters were written by participating members:..
>
>To whom it may concern: About six months ago I received
>The enclosed post in letter form. I ignored it. I received about five
>more of the same letter within the next two weeks. I ignored them also.
>Of course, I was tempted to follow through and dreamed of making
>thousands, but I was convinced it was just another gimmick and could not
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> I was wrong!
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>board in Montreal. I liked the idea of giving it a try with my computer.
>I didn't expect much because I figured, if other people were as skeptical
>as I, they wouldn't be too quick to part with five dollars. But, I buy
>lottery tickets weekly in my province and have nothing to show for it but
>ticket stubs. This week I decided to look at this as my weekly lottery
>purchase. I addressed the envelopes and mailed out one dollar in each as
>directed. Two weeks went by and I didn't receive anything in the mail.
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>I can't say that I received $50,000, but it was definitely well over
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>It was great. Of course, it didn't take me long to go through my
>earnings so I am using this excellent money opportunity one again.
>Follow the instructions and get ready to enjoy... Good Luck.
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>that one the return was about 3%. Since I did not have a modem I sent
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>of the 100 that is required if you use mail instead of bulletin
>boards. Additionally, I included as many friends, relatives, classmates
that I
>could think of in order to encourage their participation if they happened
>to recognize my name, so my percentage of gain was higher. I am trying

>again with 500 letters to see if I surpass the $141,000 of the last
>time. You just won't believe it until you try. Best wishes, Mark Garner
>Dallas TX
>==========
>>Hi, I'm Ryan(NEW#10) and I'm from the U.K (Lancashire). This is new
>stuff to me, but I'm willing to play the game.
>(I URGE EVERYBODY ELSE TO GIVE IT A TRY!)
>I'm a bit reluctant due to being in Britain, but hey, "WHAT THE HECK!!"
>Like they said above, I too have waisted more money on the Lottery and
>Scratchcards. I'LL GIVE IT A CHANCE! I'm off down to Thomas Cook to
>change my currency... See You All AT The Hilton...!!!!
>----------
>I've got news for y'all. I called up the number one on my list, to
>find out if he'd made any money. I kind of expected him to say that he'd
>made maybe at tops a couple thousand dollars (which would be great, but a
>far cry from the promised fifty!) but it turns out that he's made far
>more! While still more than $10,000 away from that figure, he said that
>things have been picking up. and he expects it to be pretty close!!
>unbelievable. I just sent out my five envelopes about five minutes
>ago. :-)
>-Scott MacFarland
>----------
>O.k....Now I'm #10 ...it's me Phill...Well, It's only FIVE dollars and
>I've thrown that away on video games in just 30-60 minutes...I've
>thrown it away on candy, tapes, a lot of stupid things....Well.. If this
is
>another one of those stupid things...So be it.... BUT IF IT'S NOT...
>THEN WHOA.......LOOK OUT......I'M IN THE MONEY...I'M IN THE MONEY.....
>Five dollars is five dollars...Nothing much to lose....What the hell
>It's worth a shot.... And I'm gonna take that shot....!!
>----------
>Hello my name is John. I've just put my name at the bottom of the
>list. I'm happy to see the others going up the list and hope I will too.
>Lirong Chen wrote he was skeptical when he was number 10 and now he's
number
>1 - WOW! We all deserve to succeed, and why shouldn't we if everybody
>plays the game. I am living in France at the moment, I had a job finding
>five $1 bills, but I managed in the end. In any case I suppose any
currency
>will do. Good luck everybody. See you at the TOP!
>----------
>Hey I'm Dennis. I'm at the bottom but I hope not for long. The
>Holidays are coming up soon and I've got a new job so the income
>is not exactly coming in on overdrive. Sure could use some extra money
>for Christmas. Lets all follow the program and hope we all have a
>prosperous new year!
>----------
>I'm Greg and I'm the new #10, I'm very skeptical about this whole
>thing but believe me this is a lot less expensive than playing Blackjack
and

>who knows how many red and green chips I've blown sitting in front of
>a pretty dealer. I sure hope this program will help erase some of my
>losses. Oh heck, I want to erase all my losses...Lets all hang tough
>together and keep posting this money making opportunity.
>---
>Hi I'm Jim and the last time I tried a venture like this was about 20
>years ago at the U of M in Ann Arbor. I was a Freshman and something
similar
>was going around I made out OK but this time I'm looking for the big one
>so that I can kick back and take a six month vacation!
>Keep the faith...
>---
>I am Gilles from up North, in the freeze (12/13/95). I'll try this for
>once! Never know what will come out of this. I've been looking for a
>job since summer. So this might be a good job! May the power be with you!
>Happy Happy New Year!
>---
>Howdy from the Great Rocky mountains! I am a little bit less skeptical
>after reading all of these letters. I noticed that it doesn't seem to
>take very long to move to the top. I CAN'T WAIT! I am so excited to be a
>part of this. I have been pondering doing this for about three weeks now
>and finally decided what the heck, it's only five bucks.... and who knows
>it may not take me long to get to the top! .... SEE YOU THERE..
>(12/18/95)
>---
>Well, I guess now it's my turn to tell all about my dreams of becoming
>rich! I'm hoping in adding a little to the end of this letter, the
>money gods will some how smile upon me more than if I had ignored all
these
>success stories. Let's all try to add a little, and make some serious
>cash in the process....Well, Whadda' ya' say?
>Ben!
>---
>Hi, I'm Dan from NY. I'm the new # 10 as of 1/27.
>$5.00 .....sure. What the hell.......
>____
>My name is Paul Marks .... I know this will work! I'm Very happy to
>see something like this again. KEEP THIS MOVING!

1057. A successfull recipe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: eeebyjeeby@aol.com
Message-ID: <4fdhuf$j0k@newsbf02.news.aol.com>
Source record: 107471

SAVE NOW!! FILE IS TOO LONG TO BE READ!
Subject: $$$$$$$ is to be had on-line !!!!!
From: RHeyworth@aol.com 101471.2477@compuserve.com
Date: 2nd Feb 1996 10:30:14pm

>Read this message carefully (PRINT IT OUT!!)
>It tells you how to make as much as $50,000 (fifty thousand dollars)!
>It's EASY. It's LEGAL. And your investment is only $5.00
>READ ON....
>**********
>IMPORTANT:
>This is not a rip-off; it is not indecent; it is not illegal;
>IT IS NOT TAX EVASION! The 'risk' -IF YOU CALL IT A RISK - is only $5,
>and it really works!!!
>
>$$
>
>The following is an extract from the original letter
>(shortened to save space)
>
>...I will never have to work again. Today I am rich! I have earned
>over $400,000 to date ad will become a millionaire within 4 or 5 months.
>Anyone can do the same. This money making program works perfectly every
>time, 100% of the time.

>I have NEVER failed to earn $50,000 or more whenever I wanted...
>(The author then goes on to say how skeptical he was when he first
>received a letter telling him about this system.
>Then, one day when he was working on his computer....)
>...I read several of the message posts and then glanced at the letter
>next to the computer. All at once it came to me, I now had the key to my
>dreams.

>I realized that with the power of the computer I could expand and
>enhance this money making formula into the most unbelievable cash flow
>generator that has ever been created. I substituted the computer bulletin
>boards in place of the post office and electronically did by computer
what
>others were doing 100% by mail. If you believe that someday you deserve
that
>lucky break that have waited for all your life, simply follow the easy
>instructions below. Your dreams WILL come true!
>
>Sincerely yours,
>Dave Rhodes

>
>$$
>INSTRUCTIONS:
>
>PLEASE NOTE: Please follow these instructions EXACTLY, and $50,000
>will be yours in 20 to 60 days.
>
>This program has remained successful because of the HONESTY and
>INTEGRITY of the participants.
>Please continue it's success by carefully adhering to the instructions.
>>

THE BEGINNING
>You're now in the Mail Order business, But, in this business your
>product is not solid and tangible, it's a SERVICE. You are in the
>business of developing MAILING LISTS. Many large corporations are
>happy to pay big money for quality lists. (However, the money made
>from the mailing lists is secondary to the income which is made from
>people like you and me asking to be included in that list.)
>
>1. Mail $1.00 (American Please) to each of the first five names listed
>below starting at #1 through #5. Send cash only please (total
>investment $5.00 + postage). Enclose a note (wrap the $1 bill with it)
>giving your NAME AND ADDRESS and stating...
"Please add my name to your mailing list."
>(YOU ARE REQUESTING A LEGITIMATE SERVICE AND YOU ARE PAYING FOR THIS
>SERVICE)
>
>2. Remove number 1 name on the list. Move all the other names up one
>position. (Number 2 will become #1 and so on) . Put your own name,
>address, zip (Postal Code) and country in the #10 position.
>
>3. Post the new letter into 10 separate bulletin boards. Call the
>massage anything appropriate like "Money Fast" or "Make $50,000 "
>
>4. 60 days later you will have received over $50,000 in cash.
>
>You are in the mail order business and people will be sending you
>$1.00 to be placed on your mailing list. This list can then be rented
>to a list broker (look in the yellow pages) for extra income on a regular
>basis. The list will become more valuable as it grows in size.
> THIS IS A SERVICE!!
>
>This is perfectly legal. If you have any doubts, refer to Title 18
>Sec. 1302 & 1341 of the Postal lottery laws.
>
>IT IS NOT TAX EVASION BECAUSE YOU ARE A LEGITIMATE MAILING LIST PROVIDER
> (Using the addresses sent wrapped around the Dollar)
>
>You can keep a copy of this report for yourself and, whenever you need

>money, you can use it again.
>
>BUT......PLEASE REMEMBER that this program has remained successful
>because of the honesty and integrity of the participants and by their
>carefully adhering to the instructions.
>
>Look at it this way. If you are honest, the program will continue and
>the money that so many others have received will come your way. If, for
>some reason, you are dishonest, YOU will feel the effects and lose out on
>this great opprutunity.
>
>Note: You SHOULD retain EVERY name and address sent to you, either on
>a computer or hard copy and keep the notes people send you. This is
>PROOF that you are TRULY PROVIDING A SERVICE!
>(Also, it might be a good idea to wrap the $1 bill in dark paper to
> reduce the risk of mail theft.)
>
>So, as each post is downloaded and the instructions carefully
>followed, five members will be reimbursed for their participation
>as a List Developer with one dollar each. Your name will move up the
>list geometrically so that when your name reaches the #5 position you
>will be receiving thousands of dollars in CASH!!!
>What an opportunity for only $5.00 ($1.00 for each of the first five
>people listed below) Send it now, add your own name to the list
>and you're in business.
>
>*TIP: Alter list accordingly...(Save as Money$.txt)
COPY all the (Money$.txt) text & PASTE into EMail: Mail around!
Into Local BBS, Forums, Libraries, Messages, Newsgroups, Contacts etc.
(APPROX 10-15 locations NOT INCLUDING-Individuals)

>$$$
>
>HERE IS THE LIST:

>1 Greg Perry,
> P.O. Box 70392, Las Vegas, NV 89170
>
>2 Jim Long,
> 1979 Canterbury Dr, Las Vegas, NV 89119
>
>3. Forrest West,
> 821 N. Valleywood Cir. Chattanooga,Tn. 37343
>
>4. Cody Landry,
> 2458 N 9th #46, Laramie, WY, 82070
>
>5. Todd Schager
> 1108 Sawmill Rd. Brick, NJ. 08724
>
>6. Dan Maibor

> 24 Andrea Drive Canton, MA 02021-3403
>
>7. Ben Mattes
> 5324 Waverly Montreal, Quebec. H2T 2X7
>
>8. Dan Collins
> 55 Burtis Ave. Rockville Centre, NY 11570
>
>9. Ben Brownell
> 120 E Bonita #112 Claremont, Ca 91711-6330
>
>10. Ryan Heyworth
> Higher Slade House.
> Slade Lane Padiham, Lanc's, U.K BB12 9AA
>**********
>The following letters were written by participating members:..
>
>To whom it may concern: About six months ago I received
>The enclosed post in letter form. I ignored it. I received about five
>more of the same letter within the next two weeks. I ignored them also.
>Of course, I was tempted to follow through and dreamed of making
>thousands, but I was convinced it was just another gimmick and could not
>possibly work.
> I was wrong!
>About three weeks later I saw this same letter posted on a local bulletin
>board in Montreal. I liked the idea of giving it a try with my computer.
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>as I, they wouldn't be too quick to part with five dollars. But, I buy
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>$5.00 .....sure. What the hell.....
>____
>My name is Paul Marks .... I know this will work! I'm Very happy to
>see something like this again. KEEP THIS MOVING!

1058. Re: VOX Circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: sorgatz@avatar.tti.com
Message-ID: <DMHAqJ.E0p@ttinews.tti.com>
Source record: 107472

In article <4f619i$li6@tel.den.mmc.com> "joseph c. hawkins" <claven.den.mmc.com> writes:
>Any sample VOX circuits or info of where to get info would be greatly
>appreciated.
>
>Thanks
>
>

Get hold of a copy of the ARRL Handbook for 1971...swell transistor vox
with easy-to-find parts and no headaches!

73! and dont breathe that flux smoke!

sorgatz@avatar.tti.com (or:es@soldev.tti.com) KB6LUY (private email:eks@westworld.com)
TTI 3100 Ocean Park Blvd. Santa Monica, CA 90405
"ANY COMMENTS OR STATEMENTS MADE ARE NOT NECESSARILY THOSE OF CITICORP, ITS SUBSIDIARIES
OR AFFILIATES." (Copyright 1995, ARR-permission to store/archive hereby granted)

1059. Re: Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb8.211649.7499@ke4zv.atl.ga.us>
Source record: 107473

In article <4f7g7g$ecl@ns2.emirates.net.ae> bingalib@emirates.net.ae (Sager Binghalib) writes:
>Hi....
>
> I am trying to build an amplifier for the HF BANDS 25-35 mhz
>generally..... any one knows how ???
>
> Seger Binghalib
>
> bingalib@emirates.net.ae

How much power, and what modulations are you going to amplify?
I note you are posting from outside the US, so I won't belabor
the Type Acceptance that would be required here since that doesn't
apply in your case. But we still need to know how much power you
want, the strength of the driving signal, and the type of modulation
in order to answer your question properly.

In general, you use the same type of circuits commonly used for
the lower part of HF, just with some scaling of tuned circuit
values. For modest power, up to the 100-200 watt level, the
amplifier would commonly be solid state. At higher power levels,
vacuum tubes would normally be used (though you can build higher
power amplifiers with solid state too).

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1060. Re: Dream Come True

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: zardoz@cais3.cais.com
Message-ID: <4fefmb$o1i@zippy.cais.net>
Source record: 107331

Hmm, spring must be early, the squirrels seem to be digging up the nuts...

Once again, proof that Darwin was right:

EeebyJeeby (eeebyjeeby@aol.com) wrote:
: SAVE NOW!! FILE IS TOO LONG TO BE READ!
: Subject: $$$$$$$ is to be had on-line !!!!!
: From: RHeyworth@aol.com 101471.2477@compuserve.com
: Date: 2nd Feb 1996 10:30:14pm

: >Read this message carefully (PRINT IT OUT!!)
: >It tells you how to make as much as $50,000 (fifty thousand dollars)!
: >It's EASY. It's LEGAL. And your investment is only $5.00
: >READ ON....
: >**********
: >IMPORTANT:
: >This is not a rip-off; it is not indecent; it is not illegal;
: >IT IS NOT TAX EVASION! The 'risk' -IF YOU CALL IT A RISK - is only $5,
: >and it really works!!!
<MUNCH>

AOL the Stucky's of the information superhighway...

1061. RE: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: ccurtis@avionics.ITt.COM
Message-ID: <311B7F1A@avint4.avionics.itt.com>
Source record: 107332

I too have Bowick's book and find it to be one of my best references.
I rarely see RF circuits explained in such a through, clear way as
in Bowick's work.

Bowick is correct that increasing the capacitance (decreasing the
inductance) of the tank circuit increases the loaded Q. As you
can see in the formula Q=Rp/Xp, decreasing Xp results in higher
Q. For a capacitor, Xp decreases with increasing values of
capacitance (Xc=1/jwC). For an inductor, Xp *increases* with
increasing values of inductance (Xl=jwL). Trust the equations;
they are impartial.

Taking the subject further, practical inductors have a much higher
series resistance, Rs, than capacitors (see top, left page 36).
This series resistance increases for *larger* values of inductance
(more windings=more resistance). The series resistance reduces
the Q of the inductor (Q=Xl/Rs) and transforms to an equivalent,
parallel resistance (Rp) shunting the tank circuit. The equivalent
parallel resistance decreases as the Q decreases (Rp=(Q^2+1)Rs),
thus loading the tank circuit even more than the ideal inductor.

I hope this helps.

Chuck, N2UCN

amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

****
Date: Wed, 07 Feb 96 08:06:53 GMT
From: Ference Kish <fkish@attila.mtx.net.net>
Subject: Anyone else read Bowick's RF circuit Design?

Hi!

I've just started reading Chris Bowick's RF Circuit Design.

I quite like it and recommend it to others, however, there is something
that
is puzzling me.

On pages 34 and 35 the book discusses the loaded Q of a resonant
circuit; explains the effect of the source and load resistance on
the Q of the tuned circuit.

Where I got a bit confused is Eq 2-6 onward. Bowick says that the
Q of the circuit is

Q = Rp /Xp

where Rp is (Rs * Rl) / (Rs + Rl) and Xp is the inductive/capacitive reactance, Rs and Rl are source and load resistance respectively.

No worries so far.

Then he goes on saying that if we want to optimize the Q of the tank circuit with source/load resistance fixed we need to change Xp thru' the L or C of the circuit. Fair enough.

No comes the tricky bit: He than concludes (if I've read it correctly) that the best way of doing this is by INCREASING the capacitance...

I'm not an expert, I'm just starting of, however, from what I heard and tried before, it seemed to me that increasing the L is the better way.

I thought the more inductance we have the better the Q of the tuned circuit
will be.

Mathematically he seems correct if one looks at his example:

changing from L=50nH, C=25pF to L=2.5nH and C=500pF @142.35Mhz the Q

of the second combination seems higher (load resistance of 50R).

Could someone enlighten me, have I misread anything?

regards, ference, fkish@attila.mtx.net.au

1062. Re: Morse code to text display wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4fe5e1ecl2@mhade.production.compuserve.com>
Source record: 107333
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc

Hamcom uses a simple 741 interface to an unused comm port and also decodes
CW, RTTY, SSTV and AMTOR. I've got some boards that will do this that I will
let go for $10 (You build em!)
E-Mail me if you are interested.
--
73, Jay WB0VNE - AAV5TH

1063. Re: Repair: Memorex 4010 TV

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb9.085323.10720@ke4zv.atl.ga.us>
Source record: 107334

In article <john-0702961302280001@host15.cyberg8t.com> john@anawave.com (John) writes:
>I have a Memorex TM-4010(made for Tandy) Screen TV(for ATV) that has
>recently lost it picture and Sound.
>
>I checked fuses on the power supply and one near the Flyback transformer.
>I feed video and audio from a VCR to the "F" connector on the back.
>Nothing. I then tried feeding audio and video from the RCA jack on the VCR
>to the RCA jacks on the TV. I then get audio but no video.
>[
>My first guess is the tuner has died. Is there anything else I should try
>before buying a tuner?

You might try feeding *RF* to the tuner. That's what the F connector
is for, RF not video. But that's probably what you meant to say anyway.
Now you've got audio, so you know the TV is getting power. You don't
have video when you feed video to the set (I'm assuming here that
you're *really* feeding video to the set, and not just RF to the
wrong port). Now the direct video input is *after* the tuner, since
video is the *demodulated* RF from a TV transmission, so whether the
tuner is bad or not is irrelevant, you've got video display problems.

Do you have a raster? To check that, turn the brightness all the way up,
the screen should turn grey. If it doesn't, you may have a high voltage
problem, or an open filament in the CRT. If you do have a raster, then
you've got video amplifier problems. (This could be as simple as a *switch*
set incorrectly to tuner when you are feeding direct video, or vice versa,
or it could be an actual video amplifier problem.)

In any event, forget the tuner for now, get the video display to
work first, then we'll see if there's a tuner problem.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1064. Re: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb9.091402.10841@ke4zv.atl.ga.us>
Source record: 107335

In article <NEWTNews.823681677.16889.fkish@attila.mtx.net.au> Ference Kish
<fkish@attila.mtx.net.net> writes:
> I've just started reading Chris Bowick's RF Circuit Design.
>
> I quite like it and recommend it to others, however, there is something that
> is puzzling me.
>
> On pages 34 and 35 the book discusses the loaded Q of a resonant
> circuit; explains the effect of the source and load resistance on
> the Q of the tuned circuit.
>
> Where I got a bit confused is Eq 2-6 onward. Bowick says that the
> Q of the circuit is
>
> Q = Rp /Xp
>
> where Rp is (Rs * Rl) / (Rs + Rl) and Xp is the inductive/capacitive
> reactance, Rs and Rl are source and load resistance respectively.
>
> No worries so far.
>
> Then he goes on saying that if we want to optimize the Q of the tank
> circuit with source/load resistance fixed we need to change Xp thru'
> the L or C of the circuit. Fair enough.
>
> No comes the tricky bit: He than concludes (if I've read it correctly)
> that the best way of doing this is by INCREASING the capacitance...
>
> I'm not an expert, I'm just starting of, however, from what I heard and
> tried before, it seemed to me that increasing the L is the better way.
>
> I thought the more inductance we have the better the Q of the tuned circuit
> will be.
>
>
> Mathematically he seems correct if one looks at his example:
>
> changing from L=50nH, C=25pF to L=2.5nH and C=500pF @142.35Mhz the Q
>
> of the second combination seems higher (load resistance of 50R).
>
>
> Could someone enlighten me, have I misread anything?

Two things are at work here. First, when the value of C is increased, the value of Xc *decreases*, but when the value of L is increased, XL *increases*. Now since Q is Rp/Xp, the *smaller* we can make Xp, the higher the resulting Q. The second thing at work, and not shown in this example, is that most of the circuit intrinsic R is in the inductor. All other things equal, reducing L also reduces intrinsic R. Now that's usually only significant for lightly loaded circuits, but it is another factor favoring high C low L circuits. As Q increases, so do circulating currents, and the intrinsic R of the circuit begins to play a larger role in ultimate Q.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1065. Re: Be a Radio Disk Jockey!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ff351$mhg@maureen.teleport.com>
Source record: 107336

In article <4f68c2$p1r@newsbf02.news.aol.com>,
arnd2it@aol.com (ARnd2it) wrote:
>Need a Job? Be a Disk Jockey!
>. . .
> The money is good, the hours are flexible. . .
>. . .

Wow! Sounds like two things have changed a whole lot since my radio days.

Roy Lewallen, W7EL

1066. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823880516.28618@pinetree.microserve.com>
Source record: 107337

I've just come across an IC in an old National data book that looks like a good candidate for building a stable VFO or PTO. It's the LM175 (derated versions are 275/375). This is an oscillator/buffer combination and the specifications regarding stability are pretty impressive:

Parameter Conditions Typical

Power Supply Rejection 5V < Vcc < 10V 0.1 ppm / V
Temperature Rejection -55C < Ta < +125C 0.05 ppm / Deg. C
Load Pull short <= RL <= open 0.01 ppm

Seems to me it would be much easier to compensate an oscillator built around this IC, because the chip would eliminate many of the potential variables and problem areas of a discrete design.

Does anyone know if this IC is still available, and does anyone here have any experience using it?

Tnx & 73,
Jack WB3U

1067. Re: SB220 HELP NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ffu4q$dt1@newsbf02.news.aol.com>
Source record: 107338

>I have a Heathkit SB 220 amp that has a problem with the high voltage
>power supply. Every time I key down, the high voltage drops considerbly.
>I have heard that the HV supply leaves a lot to be desired and that the
>tubes in the amp are not running at their real potential. Does anyone
>have any info on how to improve the HV supply in this amp?

I did a few PA designs for Heath. Let me say this. The SB-220 was designed to run 1 KW INPUT, or 600 watts out on carrier, and 2 KW PEP SSB input, or ~1200 watts PEP (no more than 600 watts average) out on SSB. The cooling, transformer, and other things are perfectly selected if you follow the manual. If you try to run the full capability of the 3-500's, the entire amp needs re-designed.

>I suspect that the caps may be old. Does this sound like it could be
>the problem?

Not if the amp's RF output isn't "humming" excessively on a single tone carrier (CW keydown) test. How much is it dropping? It could be normal. That isn't the stiffest supply in the world. And what type of house wiring are you using?

73 Tom
>Any help would be welcomed.
>
>Thank you.......KC6HVI

1068. Re: SB-220 BAND SWITCH REPLACEMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ffu55$dt5@newsbf02.news.aol.com>
Source record: 107339

In article <4fb65g$53f@usenet.continental.com>, Paul Christensen
<paulc@jax.se.continental.com> writes:

>
>C'mon Tom...We all know that VHF parasitics are the #1 cause of band
>switch failure. <g>..
>
>-Paul, N9AZ

Yeah right, and photons come down from space and ruin tubes when the amp
is on standby. And fuses work better than electronic overload circuits,
and we can spin a bad tube in a lathe to straighten the filament or grid.

And (as Garth said) monkeys fly out of your butt!

;-)

Tom

1069. Re: PTO Temperature Compensation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <823880214.28577@pinetree.microserve.com>
Source record: 107340

I've just come across an IC in an old National data book that looks like a good candidate for building a stable VFO or PTO. It's the LM175 (derated versions are 275/375). This is an oscillator/buffer combination and the specifications regarding stability are pretty impressive:

Parameter Conditions Typical

Power Supply Rejection 5V < Vcc < 10V 0.1 ppm / V
Temperature Rejection -55C < Ta < +125C 0.05 ppm / Deg. C
Load Pull short <= RL <= open 0.01 ppm

Seems to me it would be much easier to compensate an oscillator built around this IC, because the chip would eliminate many of the potential variables and problem areas of a discrete design.

Does anyone know if this IC is still available, and does anyone here have any experience using it?

Tnx & 73,
Jack WB3U

1070. Re: Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4fg515$5ou@crash.microserve.net>
Source record: 107341

tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:

>>These dummy loads work well past VHF frequencies and handle 2 watts
>>OK, everybody flame me now. N6OTQ

>I'll bite...
>"VHF frequencies" = very high frequency frequencies

Actually, the first post was correct. The phrase "Very High
Frequency" (abbreviated as "VHF") is an adjective. Despite the fact
that we often treat it as a noun, such use is grammatically incorrect.
"VHF" must be followed by the object it modifies, such as "band",
"frequency", "transmitter", "antenna", etc.

Now, who can find the error in this sentence: "I are a nit-picker."

:)

73,
Jack WB3U

1071. Re: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4fg5ec$88t@hpcvsnz.cv.hp.com>
Source record: 107342

Ference Kish (fkish@attila.mtx.net.net) asked some questions about understanding Q of a circuit. There have been some good replies, and I'll try not to just repeat what they've written, but maybe a little different viewpoint will also help.

You can define Q as the energy stored in a resonator divided by the energy lost per radian of oscillation (or 2*pi*energy stored/energy lost per cycle). That definition of Q is valid for any resonator, be it mechanical, acoustical, lumped-electrical, transmission line, or cavity -- or others.

So, in a tank circuit connected to a load (including also resistance in a source if that's appropriate), you can figure the power dissipated in the load(s) by knowing the voltage across the resistive part or the current through the resistive part. From the power and frequency, you can get the energy dissipated per cycle or per radian. (You want the _average_ per radian; don't try to use some particular radian of the cycle, cuz some have less energy dissipated and some more.) And in a lumped element tuned circuit -- L-C circuit -- the energy stored is also pretty easy. The energy "sloshes" back and forth between the L and the C, and twice per cycle essentially all is in the C -- at voltage peaks -- and 90 degrees out of phase with that, twice more, all is in the L, when the capacitor voltage is zero and the inductor current is max. If you know either the max voltage or the max current, you can get the stored energy easily. It's just V(peak)^2 * C / 2, or I(peak)^2 * L / 2. You do have to be careful to understand that that's the peak voltage across the capacitor and the peak current through the inductor -- some circuit configurations can confuse this a little. For example, with series resonance, the voltage across the (L + C) can be very small compared with the voltage across the L or the C individually.

OK, in the case Ference mentioned, there is a constant peak voltage, for a constant power dissipated in the net load resistance, since the generator and load are each in parallel across the parallel tank. So, to increase the Q, we need to increase the energy stored in the tank under the same conditions. And we do that by making C bigger, so that the V^2 * C / 2 gets bigger.

If instead you had a series circuit of generator, L, C, and load resistor, then for constant power in the load, you no longer easily know what the peak capacitor voltage is. But you do know that the RMS current in the load is constant, and since it's a series circuit, the current in the tank is the same as the load current. NOW it's obvious that you must increase the INDUCTANCE to get higher Q, because that increases I^2 * L / 2.

By the way, for most practical inductors, for a given volume and core material, the unloaded coil Q for a good design is quite insensitive to the inductance. That is, if you have an air-core coil 5cm diameter and 10cm long, you can get pretty close to the same Q over perhaps a 100 to 1 range of inductances. That's the unloaded coil Q at a particular frequency, and of course not the same at all as the loaded tank Q discussed above.

This just scratches the surface, but I hope this energy-based viewpoint helps out. With it, you can more easily look at other resonant structures and compare and contrast them to the (perhaps) more familiar lumped LC. And you can understand easily the loss in a filter by knowing the unloaded Q of each resonator and its loaded Q...

--
Cheers,
Tom
tomb@lsid.hp.com

1072. Re: SB-220 BAND SWITCH REPLACEMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4fg68u$5ou@crash.microserve.net>
Source record: 107343

w8jitom@aol.com (W8JI Tom) wrote:

>and photons come down from space and ruin tubes when the amp is on
>standby.

That's happened to me.

>And fuses work better than electronic overload circuits,

If you use the output devices as fuses, you won't have to worry about needless complication.

>and we can spin a bad tube in a lathe to straighten the filament or
>grid.

But you have to spin it with the axis of the elements at right angles to the centerline of the lathe, and the tube must also be rotated around its axis at a high rate of speed while it spins.

73,
Jack WB3U

1073. Re: SB-220 BAND SWITCH REPLACEMENT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: "C. J. Hawley" <c-hawley@uiuc.edu>
Message-ID: <311BA5A3.616B@uiuc.edu>
Source record: 107344

WB3U wrote:
>
> w8jitom@aol.com (W8JI Tom) wrote:
>
> >and photons come down from space and ruin tubes when the amp is on
> >standby.
>
> That's happened to me.
>
> >And fuses work better than electronic overload circuits,
>
> If you use the output devices as fuses, you won't have to worry about
> needless complication.
>
> >and we can spin a bad tube in a lathe to straighten the filament or
> >grid.
>
> But you have to spin it with the axis of the elements at right angles
> to the centerline of the lathe, and the tube must also be rotated
> around its axis at a high rate of speed while it spins.
>
> 73,
> Jack WB3U

Whadda you guys do for slip rings to get the filament current to the
tube? What I'm using wears out, like right now.
Any suggestions will be appreciated.
--
Chuck, KE9UW

1074. Repeater controller speech synth chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: ed@fore.com
Message-ID: <4ffrl2$rvt@baleen.fore.com>
Source record: 107345

What chips / chipset is used in programmable speech boards on repeater controllers? I have noticed several that have quite clear synth speech and one that even goes from male to female after midnight.

73

Ed N3SDO Ed@fore.com

1075. Re: MFJ QRP SSB Rigs - Worth the $$?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: DICENSODJ%DFL@pcmail.usafa.af.mil
Message-ID: <4fgcbt$ouh@usafa2.usafa.af.mil>
Source record: 107346

Greetings!

Thanks for all of your E-Mails and posted responses.

Just got a winning suggestion, well, a couple of 'em, actually, that make fundamental sense to me...

I think I'll put a second battery in my 4x4 and use my favorite Atlas 210x when 'wheeling and "car camping"...

and I'll go for a kit like the NorCal 20m/75m SSB QRP rig for backpacking.

Great! Thanks again for all of your inputs and recommendations!

-- Dave

P.S. BTW, I got nothing but praise for the MFJ SSB rigs, even though it looks like I'll probably not go that route.

1076. FOR SALE -- SHURE 450 DESK MIC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: debral@falcon.cc.ukans.edu
Message-ID: <1996Feb9.193939.113684@kuhub.cc.ukans.edu>
Source record: 107347

SHURE MODEL 450 desk mic

Good, working condition with some scratches.

The 450 was selling new in a 1993 Newark Electronics catalog
for approx $112.

$35 C.O.D. POSTPAID (or offer?)

Bill
AA4FM/0

1077. PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: willmore@whelk.cig.mot.com
Message-ID: <willmore.823905417@whelk>
Source record: 107348

It seems that every time I look for information on PLL loop filter design, they focus on simple implementation of the loop filter. Is it because simple one or two pole filters are the ideal filters for this use or is there some other design constraint involved? The filter only has to work in the audio range--from my understanding. Would a brick wall, low pass filter of a high order be a better solution? What if you could widen the passband while tuning and narrow it down once you have aquired lock?

Maxim has some nice eighth order switched capacitor filters which could easily fill this role. They are clocked at 100 times the highest passed frequency and are available in the three classic filter topoligies. It would be easy to put in a 1MHz clock with a 10x prescaler for a wide passband and then increase the prescaler value (eight bit counter) when the PLL has locked. Would this do what I think and decrease phase noise?

Just a few thoughts and questions. BTW, anyone have a good VCO design for 60.7 to 64.7 MHz? :)

Cheers,
David N0YMV

Disclaimer: I don't speak for Motorola.

1078. Switching Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: byoung@qni.com
Message-ID: <4fgk2v$b5s@suba01.suba.com>
Source record: 107349

Folks,

Should a switching power supply be used to supply power to
radio equipment? Does it introduce problems I want to avoid?
(This question comes up because I have ready access to some
200 watt power supplies that have been "pulled" from PCs...)

Bill Young
byoung@qni.com
KB0UZQ

1079. Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: dxk10@po.CWRU.Edu
Message-ID: <4fglva$8cv@madeline.INS.CWRU.Edu>
Source record: 107350

In a previous article, mzenier@netcom.com (Mark Zenier) says:

>in <4emtge$t1g@bcfreenet.seflin.lib.fl.us>, Eliot Fenton wrote:
>: But does anyone know of a chip manufactured by Motorola, National, etc.
>: that will take left and right stereo audio outputs (from say a C.D.
>: player) and produce an RF carrier suitable for reception and demod. on any
>: stereo receiver?
>
>A Japanese company has a single chip stereo transmitter, the Rohm Ba1404.
>
>
>Unless you want to deal with a fairly quirky chip, you can get a
>preassembled stereo to RF converter at your local discount store for
>about $20 in the form of the FX Wave Fx-100. Hanging on the pegboard in
>the audio department. (I use one hooked to my VCR for wireless
>headphones.) It's just LC tuned, but seems stable enough. The main
>chip has the label sanded off. It doesn't have enough pins to be a
>BA1404, but I suspect it is a related chip. I hear Rohm makes a stero
>multiplexer chip without the transmitter section. The FX wave has a
>seperate 4 transistor RF section.

Mine is labelled differently, from a Canadian manufacturer. It is cheap
and works well.

The Ramsey FM25 is expensive and in kit form, but works _very_ well. The
1404 has a varactor in parallel with the tank capacitor, and the Ramsey kit
uses that as the VCO in a PLL; it DIP-switch sets to a standard FM
frequency and does indeed stay there.

Any ham uses for these things? I don't know if multiplex transmitting is
legal on the ham bands.

--David
--
David Kazdan, M.D., Ph.D dxk10@po.cwru.edu; Amateur Radio: AD8Y
Anesthesiologist,
Whitacre Department of Anesthesiology, Meridia Huron Hospital,
East Cleveland, Ohio

1080. Re: Schematics going to a web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: Scott Adams <scotta>
Message-ID: <4fgm8a$j4g@transfer.stratus.com>
Source record: 107351

Jay WB0VNE wrote:

> was a draftsman and the engineer was not involved in that stage. A better
> approach is to use some electronic format that includes the parts, connections
> and can create a netlist. One other desired feature is ASCII format so we
> can send it back and forth without UUEncoding etc. My (highly Jaded) view
> is to use CIRCAD. It meets all of the above and the program also works with
> OrCAD, Tango, Protel, ACAD and other files. The demo is free so everyone
> can view files. The demo also lets you write (aprox 32K) files so we can
> all exchange small files cheaply. So, thats my 2 cents worth. Thanks for
> the new WEB Site!

I'm looking around for a modestly-priced, PC-compatible (ie: MSWin 3.1 or MSDOS) schematic pkg, preferably with compatible PC-board layout (decent auto-router would be nice). I've not heard of CIRCAD; would this qualify as modestly-priced (ie: hobby - I don't consider any of those you mentioned to fit this catagory)? Any suggestions for such a beast?

Suggestions appreciated (of the non-flame type)...

Scott Adams
scotta@sw.stratus.com

1081. Re: 82 Repeater in Kansas City, TXxID-1

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4fgm3h$7n3@abyss.West.Sun.COM>
Source record: 107352
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <dbaker.125.000C1511@mail.bcpl.lib.md.us>,
Donald I. Baker <dbaker@mail.bcpl.lib.md.us> wrote:
>In article <DMDLpI.Iv@pe1chl.ampr.org> rob@pe1chl.ampr.org (Rob Janssen) writes:
>>From: rob@pe1chl.ampr.org (Rob Janssen)
>>Subject: Re: 82 Repeater in Kansas City
>>Date: Tue, 6 Feb 1996 22:41:41 GMT
>
>>In <4ete1q$b0o@bcarh8ab.bnr.ca> ddenter@bnr.ca (Dean Denter) writes:
>
>>>Every radio has a "unique" pattern when you key it (due to differences
>>>in the components etc), this pattern can be used to identify a radio.
>>>There is no encrypted signal or anything that fancy.
>
>>I have my doubts about the uniqueness of the pattern generated by
>>same-type transmitters... and the stability of the pattern as a
>>function of temperature, time etc.
>>But it seems another sub-thread starts to discuss this.
>
>>Rob
>>--
>>+-----------------------------------+--------------------------------------+
>>| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
>>| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
>>+-----------------------------------+--------------------------------------+
>Lots of ways exist to "fingerprint" transmitters. One such Ham class product
>is the
>
>TxID-1 from Motron Electronics in Eugene, Oregon. It works well. The
>hardware is GREAT and the software protion is ok.
>
>Basically (without re-describing the whole world):
>
>When radios are first keyed up they each have a unique "ramp-up" to full power
>and frequency stability.

Since the Motron TXiD system connects to discriminator output, it is
only sensitive to variations in carrier phase/frequency, and
insensitive to variations in amplitude.

>Gine Motron a call and they will send literature. I believe they sell a full
>manual for $10.00 which has both a good technology description as well as the
>usual "how to use theirs" stuff.

I had an excellent chat with Don Moser of Motron on this topic, and he mentioned his new web page: http://www.motron.com.

Bottom line is: not every radio is certain to have a unique ID, TXiD is a very powerful tool as part of evidence collection but can not be treated as infallible.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1082. Re: Dummy Load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4fgss6$ouk@newsbf02.news.aol.com>
Source record: 107353

In article <4fg515$5ou@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>Now, who can find the error in this sentence: "I are a nit-picker."
>
>:)
>
>73,
>Jack WB3U

The error is you left the J off. The correct phrase is "JI are a
nit-picker" not "I are a nit picker".

73 Tom W8JI

1083. Re: A successfull recipe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: lekollar@nyx10.cs.du.edu
Message-ID: <4fh5g3$gea@nyx10.cs.du.edu>
Source record: 107354

In article <4fdhuf$j0k@newsbf02.news.aol.com>,
EeebyJeeby <eeebyjeeby@aol.com> wrote:
>SAVE NOW!! FILE IS TOO LONG TO BE READ!
^^^^
| You misspelled "skip."

>From: RHeyworth@aol.com 101471.2477@compuserve.com
>Date: 2nd Feb 1996 10:30:14pm
--
Larry Kollar, Dawsonville GA | *** Hatred is murder *** (1 Jn 3:15)
lekollar@nyx.net | http://www.nyx.net/~lekollar/
"His third dimension done been re-VOKED!"

1084. Re: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4fg0ob$j9d@cloner3.netcom.com>
Source record: 107355

In <NEWTNews.823681677.16889.fkish@attila.mtx.net.au> Ference Kish <fkish@attila.mtx.net.net> writes:

> On pages 34 and 35 the book discusses the loaded Q of a resonant
> circuit; explains the effect of the source and load resistance on
> the Q of the tuned circuit.
>
> Where I got a bit confused is Eq 2-6 onward. Bowick says that the
> Q of the circuit is
>
> Q = Rp /Xp
<...>
> No comes the tricky bit: He than concludes (if I've read it
correctly)
> that the best way of doing this is by INCREASING the capacitance...
<...>
> I thought the more inductance we have the better the Q of the tuned
circuit
> will be.

This is often confusing (to me as well), because whether you use R/X or X/R depends on whether you're talking about a parallel or series circuit. These definitions of 'Q' are just derived from the more fundamental meaning (ratio of 'lossless' power to power dissipated), so it helps to go back to the fundamental meaning when thinking of X's and R's. In a parallel tuned circuit, such as the one in your example, the voltage across the circuit is the independant variable (kind of...), so to increase the ratio of lossless power to dissipated power you need to increase the ratio of current thru the X's to current thru the R. You do this by decreasing the X's (higher C, lower L). Another way to look at this is that lower X's in a parallel circuit will shunt the voltage across the circuit faster as you move away from resonance, thus giving the sharper peak of a higher-Q circuit.

For series circuits the situation is reversed, with current being the independant variable (again, kind of...). Here the way to increase the ratio of lossless power to dissipated power is to increase the voltages across the X's by making them larger (lower C, higher L). Then as you move away from resonance the dominant X (the one that's rising) will reduce the current faster, resulting in a sharper peak once more.

I know I've done a lot of hand-waving here, but I've tried to explain it in an intuitive way. Hope it was helpful.

BTW, I think Bowick's book is great.

73,
Mike, KK6GM

1085. 2020 Mods Radio Shack WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: kmadsen@mail.qb.island.net
Message-ID: <4fedth$15g@nash.qb.island.net>
Source record: 107356

Does any body have good frequence mod for a Radio Shack 2020 base mobile scanner...

EMAIL ME ...

kmadsen@qb.island.net

1086. Re: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-09 00:00:00 UTC
From: ccallewa@cmsa.gmr.com
Message-ID: <4ffuk5$is5@oldsuna.gmr.com>
Source record: 107357

I believe that your equation is for the loss tangent which is 1/Q.
"Q" is the ratio stored to dissipated energy, and should be
Q=X/R. Clearly X and R give rise to energy stored and dissipated
respectively. I think it's a typo in the book.

73', Clyde.

1087. Re: MIL VCO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4fi09u$ebm@aldebaran.sct.fr>
Source record: 107358
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Hi,

Thanks for all answers, and thanks for time taken to answer.

I will have a look to pointers I got here and by email.

I looked for high quality VCO (80-120MHz range) and I hope with these
informations to find the "superrrrrr" product.

Regards

Have
a nice opworld@worldnet.fr
Day

1088. Kenwood 241

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: Thomas Martin <tmartin@teclink.net>
Message-ID: <4fh3t1$dkt@felix.teclink.net>
Source record: 107359

Does anyone know what causes the infamous problem with the 241 display going haywire? It has to be documented somewhere. I know 4 people with the same problem in my area but noone knows how to fix it.

If I could find out what the problem is I think I could repair the rig.

Thanks for any help.

Thomas Martin N5ZNO
tmartin@teclink.net

1089. Re: Motorola MICOR - Repeater MOD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: martvin@ionet.net
Message-ID: <4fhgm2$6rn@ionews.ionet.net>
Source record: 107360

In article <4et38i$pom@linus.mitre.org>, alwong@mitre.org says...
>
>Does any one have any info on modifying the Motorola MICOR to
>be a repeater? I saw this ad in a recent copy of CQ and was
>wondering what the specs were and what it entails.
>
Vhf or UHF ???????????? The VHF is easy, as the TX and RX are two separate strips. Just cut a couple of jumpers, add a couple of jumpers and tada - instant repeater. (Complete with built in desense and the shielding is inadequate) The UHF version is a bit more complicated. The TX oscilator is derived from the RX LO. You have to change the offset xtal and rewind a coil to shift the offset from +5Mhz. to -5Mhz....The rest is easy. Has a lot of problems with RF getting into the PL encoder on the UHF conversions. Don't do them anymore.... The internal shielding really isn't quite good enough to make a real repeater out of it....Additionally, the UHF version is real flaky, the LPA and IPA decks fail often and are real expensive and hard to find. It is easier to build a repeater from a Master II GE but I would still separate the transmitter and receiver into separate units. I have built 15 or 20 of them that way.

Martin, KN6UG
>--
>Al Wong The above opinion is mine, and does
>KF4GDD not reflect that of my employer. As
>alwong@mitre.org with all my opinions, I write them, you
> interpret them.
>
>

1090. Screwdriver Ant. Plans Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: David Nulton <dnult@axiom.net>
Message-ID: <4fgnbl$5f6@alterdial.UU.NET>
Source record: 107361
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Does anyone know of a resource for building a screwdriver antenna?
Perhaps a net resource, magazine article etc.

Thanks and 73s
de KI5XW

1091. Re: Switching Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb10.015437.15009@ke4zv.atl.ga.us>
Source record: 107362

In article <4fgk2v$b5s@suba01.suba.com> byoung@qni.com writes:
>Folks,
>
>Should a switching power supply be used to supply power to
>radio equipment? Does it introduce problems I want to avoid?
>(This question comes up because I have ready access to some
>200 watt power supplies that have been "pulled" from PCs...)

Switchers *can* work fine for powering amateur equipment, witness the Icom and Yaesu switching supplies. *However*, the switcher used must be designed to work with the radio in several respects.

First, it must maintain regulation across the wide current load demands from a few milliamps to 20 amps that a radio may present. Many switching supplies require a *minimum* load or they lose regulation (often disasterously by going to a very high voltage).

Second, it must adequately suppress switching hash. Switchers are inherently generators of high harmonic content. This has to be suppressed or you'll pickup the hash in the radio.

Third, the power supply must be tolerant of a high RF environment. Switchers are often sensitive to stray RF, which can cause them to lose regulation (sometimes with disasterous consequences).

Now the PC power supply presents special problems in this regard. It requires a minimum load on the 5 volt bus to function. So if you're going to use it to power 12 volt equipment, you're going to have to put a "dummy load" on the 5 volt bus to make it work correctly. Most PC switchers require at least a 2 amp draw on the 5 volt bus to function correctly. And of course the PC supply can only source 2 amps on the 12 volt line, so it is *really* only a 24 watt 12 volt supply. Most of that 200 watt rating is on the 5 volt bus where it normally supplies *large* amounts of current.

I'd just strip them for parts. There are some good parts inside there, including some nice capacitors you could use in the power supply of your tube amplifier projects.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1092. Re: Repeater controller speech synth chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: Chris Boone <72732.2610@CompuServe.COM>
Message-ID: <4fgp6h$719$3@mhafn.production.compuserve.com>
Source record: 107363

The typical chips are the Texas Instruments TMS5220 (old series)
or the TI TMS50C30 (new series) and associated eproms with the
data in them...

73
Chris

--
Senior Telecommunications Technician 72732.2610@CompuServe.com
ENTERGY/Gulf States Utilities 1:106/4267 FIDOnet
WB5ITT - Advanced Class BBS- 409-447-4267 (WBBS)
PG-9-5322 FCC Commercial 409-525-2001 PhoneMail 24hr

1093. Re: Screwdriver Ant. Plans Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: faunt@netcom22.netcom.com
Message-ID: <FAUNT.96Feb9163639@netcom22.netcom.com>
Source record: 107364
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Send $5. to Don Johnson, W6AAQ, Box 595, Esparto, CA 95627
He also sells parts for it, if you don't want to build the whole thing
from scratch.
73, doug

1094. Re: vfo.zip file attachment corrupted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <4fgu5gclb1@brisbane.DIALix.oz.au>
Source record: 107365

pierre@fildir.unimi.IT (Pierpaolo Sardelli) writes:

>Hi all !

>I received from the Mailing List a corrupted file... i tried to fetch it
>twice from my server, but having always the same modem.
>Can anyone of you send it again to me, please ?

>Thanks a lot !

> - Pierpaolo -
>e-mail pierre@fildir.unimi.it

>_____________________________
>Pierpaolo Sardelli
>E-mail: pierre@fildir.unimi.it

Don't forget it is 3 uuencoded files. When joined together and decoded
you finally get the .zip file. PKunzip won't look at it until then.

Murray Kelly. vk4aok.

1095. Question: Helical Elements - Yagi

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: rmwatson@eskimo.com
Message-ID: <DMKsKr.I1p@eskimo.com>
Source record: 107366

I am planning on building a Yagi antenna, probably for 20-10 meters, and want to make a miniature version, (using helical wound elements), and probably a 3 element version.

I "understand" most of what it will take as far as measurements are concerned, including the electrical lenggth vs. the physical length of the wire used on the elements. I will be using fiberglas elements that are at a slight taper, and each side will be approximately 4-5 feet long, for a total (at least of the reflector for approximately 8 feet).

Anyway, I am interested in any information from anybody that has built (or for that matter attempted to build) a like project. I am also interested in locating information as to the whereabouts of books on the aformentioned project. I found very little in the way of hf/vhf helical beams in the ARRL Antenna Handbook (1995) version.

Thanks for your help

Robert/KJ7BO
rmwatson@eskimo.com

1096. Need info on X-tal filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: ccc3843@vip.cybercity.dk
Message-ID: <4fhn59$7k7@vip.cybercity.dk>
Source record: 107367

Can enyone please help me with the following:

I have a crystal filter made by Filtech, model 2510, on 21,4 MHz.

I need info on in/out impedance & bw..

Please also send info via E-mail.

Regards OZ1CDE, Jan..
ccc3843@vip.cybercity.dk

1097. Need info on X-tal filters.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: ccc3843@vip.cybercity.dk
Message-ID: <4fhn5b$7k7@vip.cybercity.dk>
Source record: 107368

Can enyone please help me with the following:

I have a crystal filter made by Filtech, model 2510, on 21,4 MHz.

I need info on in/out impedance & bw..

Please also send info via E-mail.

Regards OZ1CDE, Jan..
ccc3843@vip.cybercity.dk

1098. WTB dud 4CX5000A; 3CX10000A-15k, 20K

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: pgerba@crl.com
Message-ID: <4ficr5$5vk@crl4.crl.com>
Source record: 107369

Hi;

I'm looking for rebuildable 4CX5,000A, 3CX10,000, 15K, 20K duds.

pete
pgerba@crl.com

1099. Re: 82 Repeater in Kansas City, TXxID-1

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: dbaker@mail.bcpl.lib.md.us
Message-ID: <dbaker.131.000C4C55@mail.bcpl.lib.md.us>
Source record: 107370
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <4fgm3h$7n3@abyss.West.Sun.COM> myers@West.Sun.COM (Dana Myers) writes:
>From: myers@West.Sun.COM (Dana Myers)
>Subject: Re: 82 Repeater in Kansas City, TXxID-1
>Date: 9 Feb 1996 23:41:37 GMT

>In article <dbaker.125.000C1511@mail.bcpl.lib.md.us>,
>Donald I. Baker <dbaker@mail.bcpl.lib.md.us> wrote:
>>In article <DMDLpI.Iv@pe1chl.ampr.org> rob@pe1chl.ampr.org (Rob Janssen) writes:
>>>From: rob@pe1chl.ampr.org (Rob Janssen)
>>>Subject: Re: 82 Repeater in Kansas City
>>>Date: Tue, 6 Feb 1996 22:41:41 GMT
>>
>>>In <4ete1q$b0o@bcarh8ab.bnr.ca> ddenter@bnr.ca (Dean Denter) writes:
>>
>>>>Every radio has a "unique" pattern when you key it (due to differences
>>>>in the components etc), this pattern can be used to identify a radio.
>>>>There is no encrypted signal or anything that fancy.
>>
>>>I have my doubts about the uniqueness of the pattern generated by
>>>same-type transmitters... and the stability of the pattern as a
>>>function of temperature, time etc.
>>>But it seems another sub-thread starts to discuss this.
>>
>>>Rob
>>>--
>>>+-----------------------------------+---------------------------------------+
>>>| Rob Janssen rob@knoware.nl | BBS: +31-302870036 (2300-0730 local) |
>>>| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
>>>+-----------------------------------+---------------------------------------+
>>Lots of ways exist to "fingerprint" transmitters. One such Ham class product
>>is the
>>
>>TxID-1 from Motron Electronics in Eugene, Oregon. It works well. The
>>hardware is GREAT and the software protion is ok.
>>
>>Basically (without re-describing the whole world):
>>
>>When radios are first keyed up they each have a unique "ramp-up" to full power
>>and frequency stability.

>Since the Motron TXiD system connects to discriminator output, it is
>only sensitive to variations in carrier phase/frequency, and
>insensitive to variations in amplitude.

>>Gine Motron a call and they will send literature. I believe they sell a full
>>manual for $10.00 which has both a good technology description as well as the
>>usual "how to use theirs" stuff.

>I had an excellent chat with Don Moser of Motron on this topic, and
>he mentioned his new web page: http://www.motron.com.

>Bottom line is: not every radio is certain to have a unique ID, TXiD
>is a very powerful tool as part of evidence collection but can not be
>treated as infallible.

>--
> * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
> * (310) 348-6043 | mine and do not necessarily *
> * Dana.Myers@West.Sun.Com | reflect those of my employer *
I was avoiding going into a lot of detail. Of course you are correct in that
the TxID-1 does not "read" any amplitude information, and is absolute by any
interpatation, but it is a GOOD tool to hope "prove" abuse by a given user.

Additional information like DF'ed location, attenuated readings (lots of
signal strength with attenuators in front of the guys house), recordings
(TxID-1) of the same trasnmitter when properly used (talking with ID/callsign)
are all inporatant pieces.

Also tools like APRS to let multiple stations plot a signal bearing and share
the data "quickley" over packet can also be of greate use.

The problems in Kansas are, sigh, not unique. I can tell you that the same or
similar problems exist in the Balt / Wash area as well. It is unfortunate
that we must spend time dealing with these issues, but they do keep coming
back.

We are also istalling seperate doppler type direction locators at all of our
recieve sites (12 +) and will be able to "localize" via the basic system
before real DF work with beams and similar comes into play.

Don

Donald I. Baker
Reville Engineering Services
4619 Schenley Road
Baltimore, MD 21210-2525
(410) 467-7163
Custon Harsh Environment
Computers and RF Products
"Where no PC has gone before..."

1100. Re: Kenwood 241

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: n1mm@aol.com
Message-ID: <4fik9b$b03@newsbf02.news.aol.com>
Source record: 107371

In article <4fh3t1$dkt@felix.teclink.net>, Thomas Martin
<tmartin@teclink.net> writes:

>Does anyone know what causes the infamous problem with the 241
>display going haywire? It has to be documented somewhere. I
>know 4 people with the same problem in my area but noone knows
>how to fix it.
>
>

If the author above is referring to a Kenwood TM-241, then I have the same problem, and would love to see an answer to his query. Sometimes the display looks fine... Right now, all of the horizontal segments are on, and a few of the vertical ones. It is *really* annoying, but I don't want to give up usage of my packet radio to get it fixed. It seems to have no affect on operation, just the display.

Thanks.

Tom - N1MM

Tom - N1MM

1101. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4fiqeh$189@hpcvsnz.cv.hp.com>
Source record: 107372

David A Willmore (willmore@whelk.cig.mot.com) wrote:
: It seems that every time I look for information on PLL loop filter design,
: they focus on simple implementation of the loop filter. Is it because
: simple one or two pole filters are the ideal filters for this use or
: is there some other design constraint involved? The filter only has to
: work in the audio range--from my understanding. Would a brick wall, low
: pass filter of a high order be a better solution? What if you could widen
: the passband while tuning and narrow it down once you have aquired lock?

The problem is that the filter is part of a closed-loop feedback control system. If you have unity gain and net 360 degrees phase shift in the loop, you are going to have oscillations. Since high-order filters have large phase shifts where their gain is still high, they aren't appropriate for use in a closed loop.

--
Cheers,
Tom
tomb@lsid.hp.com

1102. Re: radio direction finding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: ab5p@swcp.com
Message-ID: <4fimos$ers@sloth.swcp.com>
Source record: 107373

Paul,

One very good reference book is: TRANSMITTER HUNTING - RADIO DIRECTION FINDING SIMPLIFIED, by Joseph D. Moell K0OV, and Thomas N. Curlee, WB6UZZ, by published TAB Books, Inc., ISBN 0-8306-2701-4.

Those of us who like to hunt transmitters for fun consider this book indispensible.

Brett

pguello@wpo.uwsuper.edu (Paul Guello) wrote:

>I'm looking for technical information about radio direction finding
>eauipment. Can anyone suggest where to look. I am especially interested in
>how automatic direction finders work.
>Thanks, Paul.

ab5p@swcp.com
Albuquerque Transmitter Hunting Homepage:
http://www.swcp.com/~ab5p/foxhunt.html

1103. Re: Can you get DTMF tones A-D out of a USR 14.4 modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: joe haas <joeh@rollanet.org>
Message-ID: <4fiqo2$95v@gamma.rollanet.org>
Source record: 107374

>Anyone out there know how to get the DTMF tones A-
>D out of a Hayes compatible U.S. Robotics Sportster 14.4
>modem?

Just type the ascii characters A-D into the dial string. For example:

ATDT 1234ABCD

will dial the desired digits. Upper or lower case will work. I occasionally use this to send DTMF control codes to repeater controllers that have these digits in their control codes. Of course, you must first disable call progress detection on the modem or it will try to look for the dial tone before dialing. I do this as follows:

ATX0=0

This works on the older modems, and I have tried it on my Zoom modem.

1104. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: David Nulton <dnult@axiom.net>
Message-ID: <4fj5uf$s9o@alterdial.UU.NET>
Source record: 107375

I'm not a PLL expert but have worked with some simple stuff at 1Khz. I believe the design of the filter will affect the capture and lock range of the PLL. For example, too sharp a filter could easily lose lock (If I understand it right). However I think the gear shifting filter idea might work just dandy. Although depending on your application, there usually isn't much need for a really whopper filter in the PLL.

Just my thoughts

73s
de KI5XW

1105. Re: Switching Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: David Nulton <dnult@axiom.net>
Message-ID: <4fj5o2$s9o@alterdial.UU.NET>
Source record: 107376

It all depends on what you want to run with your power supply. Switchers do introduce some noise, but most are well filtered and out of the audio and amateur bands. The hard part is finding a switcher that can handle the load. For example, a 200 watter is 15 amps approx, barely enough for a solid state HF rig. Also note that your 200 watt supply is more than likely only rated for an amp or two at 12 volts. Usually all the ooommmpph is in the 5 volt supply.

-dnult
KI5XW

1106. RF remote control link to toy.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-10 00:00:00 UTC
From: thinker335@aol.com
Message-ID: <4fj8ov$i24@newsbf02.news.aol.com>
Source record: 107377

I am interested in making a remote controlled toy robot that has a relatively high BW (~ 19.2 Kbaud) full duplex (if possible) connection to a computer base station.

I don't want to violate FCC regulations, and I don't want to have to get a license. Except for the 900 - 928 MHz spread specturm band, is there any portion of the spectrum that allows unlicensed usage of this type ?

Also, what do frequencies are used for commercially available radio controlled toys ?

How would I find information on FCC regulations on the RF spectrum < 1 GHz ?

Thanks in advance.

1107. Help design coil for coupling 2 amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4fkhdu$4e9@aldebaran.sct.fr>
Source record: 107378
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Hi everybody

I would like to add the power of two identical amplifiers in 80-120MHz range with 300W each.

I don't know how.

I believe that you have to apply signal to each amplifier (invert one signal like LF amplifier ?) adapting impedance (50 ohms -> 50 + 50 ohms). For output add power with impedance matching.

Help will be greatly appreciated !

Regards

Have
a nice opworld@worldnet.fr
Day

1108. software for mfj-1278 tnc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199602110449.OAA05293@dyson.brisnet.org.au>
Source record: 107379

Hello all,
I amlooking for some software to use all the functions of the mfj
1278 multimode tnc. I am sure I saw somewhere a program described that does
all the functions (but much better) than multicom 3.1. Unfortunately I did
not bookmark the site or program name, can you help????.
regards Peter L. Williamson VK4AWP.

1109. Re: software for mfj-1278 tnc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4fk06d$mu2@news-f.iadfw.net>
Source record: 107380

peterw@dyson.BRisnet.ORG.AU (Peter L. Williamson) wrote:

>Hello all,
> I amlooking for some software to use all the functions of the mfj
>1278 multimode tnc. I am sure I saw somewhere a program described that does
>all the functions (but much better) than multicom 3.1. Unfortunately I did
>not bookmark the site or program name, can you help????.
>regards Peter L. Williamson VK4AWP.
I'm using multicom, but I have a friend using a program from Canada
called "Skyrider". I don't think it supports fax and maybe other
video modes though. He said that he saw it in an ad in a magazine.
Sorry but that's all I remember about it.
73,
Kerry
kmiller@airmail.net

1110. Re: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: "Chris Bowick", WD4C <73617.3301@CompuServe.COM>
Message-ID: <4fk0ivcpl1@mhade.production.compuserve.com>
Source record: 107381

Thank you all for your very nice comments about my book RF Circuit Design. I'm glad that you have found it useful. I originally wrote the book because I was unable to find a text on the topic that could adequately explain the in-depth RF theory the way I felt it needed to be explained---with detailed example problems and step-by-step solutions.

The book was originally published by Howard W. Sams, which was later bought out by Macmillan, and is still going strong.

Kish, Curtis, and Coffman et.al. did a great job of providing further explanation of Xp as it relates to Q of resonant circuits.

I am considering an update to the book (2nd Edition) and would be interested in any input, suggestions, corrections, etc. that any of you might have. Perhaps we can make it an even better reference book in the future!

Thanks again! Enjoy!

Chris Bowick, WD4C

--
Chris Bowick, WD4C, Author, RF Circuit Design

1111. Need ID: Motorola final/ MRF327-8851

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: rickcrider@aol.com
Message-ID: <4fkc8c$1gq@newsbf02.news.aol.com>
Source record: 107382

Peering inside of an amplifier that I aquired at a military surplus store, trying to figure out what band it is for and what the power output is. It takes a 28v DC power supply. Has 'N' type connectors for in and out. Made by 'TPL Com Inc.
Inside there are five identical circuit boards tied together, with the heart of each board appearing to be Motorola brand finals. White ceramic looking discs, about 1/2" in diameter and 1/8" thick. On them is the Motorola logo and the following:
MRF327 (on the top line) and 8851 directly under the top line. Any techies out there know what frequencies these may operate at, and at what power output?
I really have no idea what I have here. It is modern, and brand new. Just don't know how to figure out what it was made for.

1112. Re: Help design coil for coupling 2 amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4fklqo$k1c@news.iii.net>
Source record: 107383
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

If you were lucky, and the phase difference is not too bad between amplifiers, a simple 1/4 wave line from/to each amplifier of 75 ohm coax will function as splitter and combiners.

50 -> 1/4 wave 75 ohm coax -> 102.5 Ohms
Use a tee to join both and you're backto about 50 ohms!

Enjoy!
Tom

1113. Re: Need ID: Motorola final/ MRF327-8851

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4fkli8$k1c@news.iii.net>
Source record: 107384

MRF327 information is available from the Motorola web site.

MRF327 80Watts 100-500 Mhz.

Enjoy
Tom
WA1RHP

1114. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4fl8gn$72u@cc.iu.net>
Source record: 107385

Although I design these things for a living, I'm cautious about calling myself an "exspurt". But I'll take a poke at this...

In article <willmore.823905417@whelk>, willmore@whelk.cig.mot.com says...
>
>It seems that every time I look for information on PLL loop filter design,
>they focus on simple implementation of the loop filter. Is it because
>simple one or two pole filters are the ideal filters for this use or
>is there some other design constraint involved? The filter only has to
>work in the audio range--from my understanding. Would a brick wall, low
>pass filter of a high order be a better solution? What if you could widen
>the passband while tuning and narrow it down once you have aquired lock?
>

The phase shift through the filter affects the ability of the loop to respond properly. We generally set our loop filters to 20% of the reference frequency because of this. Yes, a higher order filter will extend the flat part of the response out closer to the reference frequency, but the phase shift changes as well.

Of course, according to some writers (like Ulrich Rhode) when you try to build a 2nd order, you really build something higher order anyway.

>Maxim has some nice eighth order switched capacitor filters which could
>easily fill this role. They are clocked at 100 times the highest passed
>frequency and are available in the three classic filter topoligies. It
>would be easy to put in a 1MHz clock with a 10x prescaler for a wide
>passband and then increase the prescaler value (eight bit counter) when
>the PLL has locked. Would this do what I think and decrease phase noise?

I'd be afraid of clock feedthrough getting on the control line. You might want to wrap an elliptic lowpass around those to get rid of the clock, but then you're introducing another filter, more phase shift, and more things to be concerned about. When you try to figure out how much voltage from the clock you can stand on the VCO control line without getting horrible spurs, you can scare yourself pretty quickly.

>
>Just a few thoughts and questions. BTW, anyone have a good VCO design for
>60.7 to 64.7 MHz? :)
>
>Cheers,
>David N0YMV
>
>Disclaimer: I don't speak for Motorola.

This is pretty brief, but I hope it helped. I'd be happy to take this
to email if you'd prefer.

73,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

1115. W1FB's univ. dc rx

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4fl110$1kn@cloner3.netcom.com>
Source record: 107386

Has anyone build the W1FB Universal RX from the W1FB QRP Notebook?
I am halfway through putting parts on the board and noticed that there
is no value for C3. (Schem is on page 78)

C3 appears to just couple the signal but I dont know if its part of the
tuned input or not. And not well enough versed to know what a good
value would be.

Any comments or success storys related to this schematic are
appreciated.

Tim, ka8ddz

1116. Looking For Good Transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: butch@maestro.maestro.com
Message-ID: <DMM82y.9qD@maestro.maestro.com>
Source record: 107387

Hello,

I have talked about building a linear for years and I have collected all of the parts,however, the transformer that I have is no match in quality for the 120mf oil capacitor, and I would also like a high quality bandswitch- 7 or more positions at 10kv would be nice. So tell me what you have, btw I am located in New York City.

allan

1117. Power Supply schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: Steve W <Steve@saga.demon.co.uk>
Message-ID: <oLu68CAollHxEww4@saga.demon.co.uk>
Source record: 107388

Hi all,

Could anyone out there help me out with a schematic diagram to build a
13.8v 15-20A power supply, regulated and stabilised ?

Thanks in advance

Steve G7ULW
Steve@saga.demon.co.uk

--
Steve W

1118. Re: Schematics going to a web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: David Nulton <dnult@axiom.net>
Message-ID: <4fl6rt$p68@alterdial.UU.NET>
Source record: 107389

Have you heard of "PADS"? It is a circuit schematic editor, and PCB layout program. I believe it comes in a Sharware or lite version. I had a copy but played with it very little. It does do the job though - definately not as well as a high dollar program, but it does work. I did have some problems getting it to run properly, but my system was lacking memory and running on a 386 chip. I don't know how you can find it, but it should be out there somewhere. It is definately worth trying out if you can get a copy. Some neat features are the ability to interface with SPICE and has several export/import formats for both schematics and PCB layout.

73s KI5XW
Dave

1119. Re: Schematics going to a web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: David Nulton <dnult@axiom.net>
Message-ID: <4fl6ss$p68@alterdial.UU.NET>
Source record: 107390

Have you heard of "PADS"? It is a circuit schematic editor, and PCB layout program. I believe it comes in a Sharware or lite version. I had a copy but played with it very little. It does do the job though - definately not as well as a high dollar program, but it does work. I did have some problems getting it to run properly, but my system was lacking memory and running on a 386 chip. I don't know how you can find it, but it should be out there somewhere. It is definately worth trying out if you can get a copy. Some neat features are the ability to interface with SPICE and has several export/import formats for both schematics and PCB layout.

73s KI5XW
Dave

1120. Help with StayLoc Yig Filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4flm5r$fg7@news.calweb.com>
Source record: 107391

Where can I find information on the following?
I have a couple of "StaLoc" YIG filters made by Eaton/Yig-Tek.
There are two YIG filters in one magnetic housing arranged so that
one of the YIGs can be tuned with an offset from the other.
The base of the filter has some electronics with four coax connectors and
five feed-through connections labled e1 through e5.

What I need to know is, what signals and what voltages go to each connection.

These filters are miltary surplus and have the following labeling:

12115 ASSY 7513-7172-1
12115-7513-7172-2
SERIAL NO L143-5d
DATE CODE 8807 REV D

If I can figure out the connections I want to use them with my homebrew
microwave equipment.
Thanks
Bill K7NOM

1121. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: drassew2@aladdin.co.uk
Message-ID: <4flegc$56j@news.aladdin.co.uk>
Source record: 107392

willmore@whelk.cig.mot.com (David A Willmore) wrote:

>It seems that every time I look for information on PLL loop filter design,
>they focus on simple implementation of the loop filter. Is it because
>simple one or two pole filters are the ideal filters for this use or
>is there some other design constraint involved? The filter only has to
>work in the audio range--from my understanding. Would a brick wall, low
>pass filter of a high order be a better solution? What if you could widen
>the passband while tuning and narrow it down once you have aquired lock?

>Maxim has some nice eighth order switched capacitor filters which could
>easily fill this role. They are clocked at 100 times the highest passed
>frequency and are available in the three classic filter topoligies. It
>would be easy to put in a 1MHz clock with a 10x prescaler for a wide
>passband and then increase the prescaler value (eight bit counter) when
>the PLL has locked. Would this do what I think and decrease phase noise?

>Just a few thoughts and questions. BTW, anyone have a good VCO design for
>60.7 to 64.7 MHz? :)

>Cheers,
>David N0YMV

>Disclaimer: I don't speak for Motorola.

PLL 'Filters' don't actually filter as such. They serve to set the
loop bandwidth and damping factors and as such only need one or two
poles. For basic loops there is nothing to be gained by going to
higher order filters. The PLL can only clean up phase noise closer to
the carrier than the loop bandwidth. Phase noise needs to be
minimised at start by using as wide a loop bandwidth as possible and a
VCO with an inherently good phase noise performance in its own right.

Don't even think of using switched capacitor filters in PLLs. There
could easily be horrible interactions between switching components and
loop frequencies!

73 Andy G4JNT

1122. Re: Homebrew 160 Meter Vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: tracker@indirect.com
Message-ID: <tracker.46.004E22C8@indirect.com>
Source record: 107393
Cross-posted to: ti.rec.radio,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <ham.48.0121B620@msg.ti.com> ham@msg.ti.com (Bil Morrison) writes:

>The following is an excerpt from EMail I sent to some K5OJI club (Texas
>Instruments ARC, Dallas) members interested in planning, modeling, and
>building a balloon-lifted vertical wire antenna for 160 Meters. This is to
>become a proposed antenna design specification for an antenna to be hoisted
>for Field Day '96. We welcome any hints, kinks, and suggestions for
>improvements in design, cost reduction, and payload minimization.
>**********

You have a great opportunity ahead of you. Maybe I can help. I've lofted an
80m wire antenna with helium.

>Here are the burning questions for the day. How many pounds will a 12' x 8'
>surplus wx balloon, inflated with two full-size tanks (approx. 240 CF/tank)
>of helium, carry to a height of about 100 feet into the air? We are presuming
>at this point that fishing line would be used to tether the balloon in place
>in order to maintain constant tangency above ground.

For starters, the surplus weather balloon should be fine, provided you don't
fill it tight. June weather tends to be warm, and helium will expand quite
alot in warm weather. I experienced several bursted balloons. I used 50/50
latex and neopren (SP?) at $4 each. These are very strong and reusable. They
measured 4 1/2 feet across.

>We want to determine how heavy guage wire can be used for the vertical. For
>that matter, if we hoist the entire 90 degree electrical length, I assume it
>will eliminate the need for a capacity hat.

I used 18 guage stranded wire, a little light for this type of duty, but it
worked for up to 100 watts. I never tried more power than that. It goes
without saying, but the smaller the diameter the wire used, the narrower the
bandwidth the antenna displays.

A few additional notes:

1) Check with your local FAA office. I found out that my balloon/antenna
could not be over 100 ft above average terrain, if located within 25 miles of
ANY airport or airstrip, and teathered.

2) The FAA requires written notification if the balloon exceeds 100 ft in
height.

3) The FAA requires illumination of ALL teathered balloons after dusk.

Your local FAA office may have different information, so check with them.

Teather your balloon to prevent movement of the antenna. This movement WILL cause SWRs to go crazy, even slight movement.

Have fun, and let me know how it works out for you.

73 de.

Mark Saunders - KJ7BS
Glendale, AZ
PACKET: KJ7BS@KC7Y.AZ.USA.NOAM
INTERNET: tracker@indirect.com

1123. tech info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: theresa@ttttt.smart.net
Message-ID: <NEWTNews.2018.824045461.theresa@ttttt.smart.net>
Source record: 107394

I have some questionable chips used in a keyboar
in an electric typewriter and I'm going to try to
get them locally if possible.

If someone has a couple of minutes, could you please
post substitution numbers on these chips.
Fairchild or TI numbers should be be fine.

Chip #1:
Mostek 8509
MK23128
MK 23032N-25

Chip #2:
NEC 8430x8

Chip #3:
AMD
8349MPA
P8031

Thanks for the help

email; theresa@ttttt.smart.net

1124. Re: QRP Schematics scanned and ready!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: David Woolley <david@djwhome.demon.co.uk>
Message-ID: <DMLxIp.78n@djwhome.demon.co.uk>
Source record: 107395

In article <heiss.43.0048263F@ualr.edu>, <heiss@ualr.edu> wrote:
>
>I think here is as good a place as any to post them. Personally I would
>prefer JPEG's. I would start with one and see what kind of response you get.
>They should be uuencoded first.

Do not post them here. This is not a binaries group and news admins don't
like hidden binaries groups; they are even more likely to block them than
overt binaries groups.

JPEG is not a good format for line drawings. TIFF FAX, PCX and GIF are
all better at handling them (JPEG is very good for natural images, though).
--
David Woolley, London, England david@djwhome.demon.co.uk

1125. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-11 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <4fln1c$mo3@delta.misha.net>
Source record: 107396

willmore@whelk.cig.mot.com (David A Willmore) wrote:

>It seems that every time I look for information on PLL loop filter design,
>they focus on simple implementation of the loop filter. Is it because
>simple one or two pole filters are the ideal filters for this use or
>is there some other design constraint involved? The filter only has to
>work in the audio range--from my understanding. Would a brick wall, low
>pass filter of a high order be a better solution? What if you could widen
>the passband while tuning and narrow it down once you have aquired lock?

>Maxim has some nice eighth order switched capacitor filters which could
>easily fill this role. They are clocked at 100 times the highest passed
>frequency and are available in the three classic filter topoligies. It
>would be easy to put in a 1MHz clock with a 10x prescaler for a wide
>passband and then increase the prescaler value (eight bit counter) when
>the PLL has locked. Would this do what I think and decrease phase noise?

>Just a few thoughts and questions. BTW, anyone have a good VCO design for
>60.7 to 64.7 MHz? :)

>Cheers,
>David N0YMV

>Disclaimer: I don't speak for Motorola.

You should talk with some Mot. engineers in Illinois they could
provide you with good info.

The problem with the Maxim filters is noise.

High order filters are more prone to ringing which increases
settling times.

Mot. has some good books on PLL's get them.

Changing the loop BW is sometimes done if needed. Adds
complication.

Simon
M. Simon is a Master in The Ascended Bastard
School of Yoga
msimon@rworld.com
Our Aim is Money and Power

1126. Use for ferite materials???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Steven B Reed <kb8stb@ix.netcom.com>
Message-ID: <311F3E9A.34C5@ix.netcom.com>
Source record: 107279

Hello all,
I work at a large CRT manufacturer, and they throw away a large quanity of defection yokes. I have saved a few from the landfill, (mostly for the enameled copper wire), and have discovered what appears to be a large cone of ferite looking material. I know that this "stuff" can be used to make chokes and the like. My question is, can these half cone shapes be used for anything usefull? Now that I have them home I would rather do something with them besides just pitching them in MY trash.

Any and all help is appreciated
73
--
Steven Reed KB8STB

1127. File formats to download

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4foh5t$u6t@opera.iinet.net.au>
Source record: 107280
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

G,day from Oz

I am setiing up a web page with articles on various topics in RF and digital design. Current interests are DDS systems, SSB phasing receivers and the PIC

Any ideas re

The best document format to download files?

Any sites with info on these topics?

Richard Hosking VK6BRO

VK6BRO
51 Sulman Rd
Wembley Downs
WA 6019

1128. Re: 813 Xmtr for 160M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Tom Pfaffenbach <tvpfaffe@mail.delcoelect.com>
Message-ID: <4fnihv$co9@kocrsv08.delcoelect.com>
Source record: 107281

The 1953 ARRL Handbook has an excellent design for a single 813 transmitter. It uses a 6AG7 oscillator, 6L6 driver, 6Y6 clamper and an 813 as Power Amplifier. A Classic 1930's design!

Fair Radio in Lima Ohio has the ART-13 available in surplus again for $150. It covers 2-18 Mhz
(and is easily re-worked for 160 thru 10 meters) and uses an 813 modulated with a pair of 811's. You might have more fun rebuilding the ART if you just want to run the 813's!

73 and Happy Dx'ing de K9JDU

1129. Re: Use for ferite materials???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <9wMd6CANr7HxEwQd@ifwtech.demon.co.uk>
Source record: 107282

In article <311F3E9A.34C5@ix.netcom.com>, Steven B Reed wrote:
>Hello all,
> I work at a large CRT manufacturer, and they throw away a large
>quanity of defection yokes. I have saved a few from the landfill,
>(mostly for the enameled copper wire), and have discovered what appears
>to be a large cone of ferite looking material. I know that this "stuff"
>can be used to make chokes and the like. My question is, can these
>half cone shapes be used for anything usefull? Now that I have them
>home I would rather do something with them besides just pitching them in
>MY trash.
>

Keep them in the original pairs! G0SNO of the RSGB EMC committee has found that they make excellent RF chokes for heavy AC line currents, with just the right combination of permeability and physical size. Wind the whole line cord about 10 turns through the cone, and it'll be resonant in the mid-HF region. You could even do the same with RG213 for a monster feedline choke.

They don't look pretty but they do work, and scrap deflection yokes are usually available free at the back door of the local TV repair shop.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1130. Re: Help design coil for coupling 2 amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb12.003037.24437@ke4zv.atl.ga.us>
Source record: 107397
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <4fkhdu$4e9@aldebaran.sct.fr> opworld@worldnet.fr writes:
>I would like to add the power of two identical amplifiers in 80-120MHz
>range with 300W each.
>
>I don't know how.
>
>I believe that you have to apply signal to each amplifier (invert one
>signal like LF amplifier ?) adapting impedance (50 ohms -> 50 + 50
>ohms). For output add power with impedance matching.

What you need is called a Wilkinson power splitter/combiner. This will divide the drive power equally between the amplifiers, and combine their output powers. Phase is maintained identical through both paths, except for the differences in phase internal to the two amplifiers. That can be compensated by using an adjustable phase shifting network at the input of one of the amplifiers, IE a line stretcher or the like, and adjusting to null reject power. You may also need to be able to control the gain of one of the amplifiers so that you can exactly match amplitude response too, again adjusting to null reject power.

Wilkinson networks are easy to build for a specific frequency. In your range they would just be lengths of coax and a reject load resistor. To cover the entire 80-120 MHz spread without retuning would be more difficult. See any RF handbook for details of building Wilkinson splitters and combiners.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244 | |

1131. ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: NAME: 100623.303@CompuServe.COM;
Message-ID: <4fm7ts$no7$1@mhade.production.compuserve.com>
Source record: 107398
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

I have just bought an ICOM IC-2SAT minus instuction manual.
can anyone help me with the following points:-

1) does this radio have a tone burst for reapeter use ,if so how
is it operated?

2) my radio seems to have rx 100-200 Mhz and tx 140-150Mhz
but the disply will read 0-1300 Mhz. does this mean it can
be made to receive from 0-1300 Mhz if so how?

3)does anyone know of any other mods or add-on modules for the
2-sat ?

i would be greatful of any help or details on this radio..

THANX

ROB!!!!!

1132. Broadcasting Radio Station Database for you.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: chuck <chuck@mail.flinet.com>
Message-ID: <4fme8u$bsf@news.flinet.com>
Source record: 107399
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

Friend,

A fully functional standalone Broadcasting Radio Station Database for IBM and compatibles with more than 4,000 Radio Station records already. This program covers stations on Longwave, Mediumwave, and Shortwave. Each record contains the Station name, Frequencies, Schedule, Languages, Country, and Continent. The program sorts in same order.

What's needed to get it? Your EMail address and your Postal Mailing address for registration and future information via Post of other Radio Related Database programs. This information will be kept confidential.

If you can read a document written in MS Word(extension is DOC), request the operating instructions for the Radio Station Database Program called Voyageur. You'll get an idea from reading this document of the Voyageur Database and what it does.

Incidently, the program offered with this notice is valid until June 6, 1996.

Hope to hear from you..

Chuck

KA4PRF

1133. Wanted Schematics for TEKTRONIX 2215A SCOPE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199602120708.RAA19116@dyson.brisnet.org.au>
Source record: 107400

Can any reader help me with some schematics/scope trace for the TEK 2215A.
Mine has just developed a fault where it will not trigger on CH. 2 and I am
keen to repair it (AGAIN! SIGH! I think I could take this one apart in my
sleep----)
Tnx Peter VK4AWP.

1134. QST Noise Source Article?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-1102962046360001@amber1.ultranet.com>
Source record: 107401

There was a thread running a couple of weeks back on construction of a diode noise source that was described in QST a couple of years ago. Anyone have the exact reference so I can order the acticle via inter-library loan?

Thanks,

Jon

1135. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Al Wong <alwong@mitre.org>
Message-ID: <4fm88k$8r1@linus.mitre.org>
Source record: 107402

I have just purchased a Yaesu FT-5200 with the MH-27 w/DMTF microphone. The problem is that there were no instructions on for the microphone. My question is what is the A B C D buttons for? The 5200 manual does point out the fact that the P button is non-functional on the 5200.

Any response/help would be greatly appreciated.

--
Al Wong The above opinion does not reflect that
KF4GDD of my employer. As with ALL my opinions,
alwong@mitre.org I write them, you intrepret them.

1136. Press Release - PIC-1 Pro Pack

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: itutec@aol.com
Message-ID: <4fmj8c$pbp@newsbf02.news.aol.com>
Source record: 107403

ITU Technologies is proud to introduce the new PIC-1 Pro Pack. This new package is geared toward serious hobbyists and engineers looking for a high-quality PIC programmer at a low price.

The PIC-1 Pro Pack includes:
* the PIC-1 Programmer w/software, cables and power supply (US only)
* the PIC-n-GO upgrade (PIC16C84 processor and data sheet)
* 18-pin ZIF socket upgrade for PIC-1
* 40/28 pin ZIF adapter module for PIC-1

The PIC-1 Pro Pack is _only_ $79US in kit form or $99US assembled/tested.

This package will allow you to program all of Microchip's PICs in the mid-range family (PIC16C6x/7x/8x) with out-of-the-box support! This high-quality package includes everything you will need to begin programming PIC microcontrollers today!

This is the same PIC-1 programmer you have read about in Electronic Products, MicroComputer Journal, Electronics Now, Popular Electronics and Nuts and Volts Magazine.

For those just starting out with PICs, we recommend our PIC-n-GO Package. This includes our PIC-1 programmer with one PIC16C84 EEPROM-based processor and data sheet. This package includes all software, cables and power supply (US only) for only $45US in kit form or $61US assembled/tested. The PIC-1 programmer alone is available for $39US in kit form or $55 assembled/tested.

Please add $5 shipping in North America, $10 to all other destinations.

You may pay with VISA or MasterCard, COD (US only), money order, or your personal check.

See our WEB PAGE for more details and other great products!
WEB URL: http://www.itutech.com

ITU TECHNOLOGIES
E-mail: sales@itutech.com
Phone : (513) 574-7523 9AM - 5PM Eastern
Fax : (513) 574-4245

1137. Re: ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: "Anthony R. Gold" <tgold@microvst.demon.co.uk>
Message-ID: <824133506snz@microvst.demon.co.uk>
Source record: 107404
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

In article <4fncpo$kq4@info-server.surrey.ac.uk>
P.Manning@ee.surrey.ac.uk "Philip Manning" writes:

> To Rob, You had better alter your Compuserve address, otherwise mail will
> bounce, bring your address CompuServe.COM down to lower case, otherwise you
> might not get any mail at all, if somebody copies it verbatim.
>
> Best to address it Internet:100623.303@compuserve.com

I think that Rob has it right. Internet email host names are case
insensitive. (But user names may not be.) Compuserve's mail system will
definitely not bounce this and your host system should get the correct
address from the dns with this name, if it isn't broken. Judging from the
six copies of the posting you sent, I wouldn't bet on that.

BTW, the format of `Best address' which you suggest is perfect for sending
email from one CompuServe user to another Comuserve address but via
Compuserve's Internet gateway, which is a fairly unusual thing to do.

Regards,
--
Tony - G3SKR / AA2PM email: tgold@panix.com
tgold@microvst.demon.co.uk
packet: g3skr@n0ary.#nocal.ca.usa.na

1138. Re: ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Philip Manning <P.Manning@ee.surrey.ac.uk>
Message-ID: <4fncpo$kq4@info-server.surrey.ac.uk>
Source record: 107405
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

To Rob, You had better alter your Compuserve address, otherwise mail will bounce, bring your address CompuServe.COM down to lower case, otherwise you might not get any mail at all, if somebody copies it verbatim.

Best to address it Internet:100623.303@compuserve.com

Phil G1LKJ

Sorry cannot comment on the IC-2SAT. I have a IC2WE though which is very similar.

1139. Re: ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Philip Manning <P.Manning@ee.surrey.ac.uk>
Message-ID: <4fnctd$l2r@info-server.surrey.ac.uk>
Source record: 107406
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

To Rob, You had better alter your Compuserve address, otherwise mail will bounce, bring your address CompuServe.COM down to lower case, otherwise you might not get any mail at all, if somebody copies it verbatim.

Best to address it Internet:100623.303@compuserve.com

Phil G1LKJ

Sorry cannot comment on the IC-2SAT. I have a IC2WE though which is very similar.

1140. Re: ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Philip Manning <P.Manning@ee.surrey.ac.uk>
Message-ID: <4fncte$l2p@info-server.surrey.ac.uk>
Source record: 107407
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

To Rob, You had better alter your Compuserve address, otherwise mail will bounce, bring your address CompuServe.COM down to lower case, otherwise you might not get any mail at all, if somebody copies it verbatim.

Best to address it Internet:100623.303@compuserve.com

Phil G1LKJ

Sorry cannot comment on the IC-2SAT. I have a IC2WE though which is very similar.

1141. Re: ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Philip Manning <P.Manning@ee.surrey.ac.uk>
Message-ID: <4fncte$l2q@info-server.surrey.ac.uk>
Source record: 107408
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

To Rob, You had better alter your Compuserve address, otherwise mail will bounce, bring your address CompuServe.COM down to lower case, otherwise you might not get any mail at all, if somebody copies it verbatim.

Best to address it Internet:100623.303@compuserve.com

Phil G1LKJ

Sorry cannot comment on the IC-2SAT. I have a IC2WE though which is very similar.

1142. Re: ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Philip Manning <P.Manning@ee.surrey.ac.uk>
Message-ID: <4fncte$l2t@info-server.surrey.ac.uk>
Source record: 107409
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

To Rob, You had better alter your Compuserve address, otherwise mail will bounce, bring your address CompuServe.COM down to lower case, otherwise you might not get any mail at all, if somebody copies it verbatim.

Best to address it Internet:100623.303@compuserve.com

Phil G1LKJ

Sorry cannot comment on the IC-2SAT. I have a IC2WE though which is very similar.

1143. Re: ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Philip Manning <P.Manning@ee.surrey.ac.uk>
Message-ID: <4fnctj$l2u@info-server.surrey.ac.uk>
Source record: 107410
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

To Rob, You had better alter your Compuserve address, otherwise mail will bounce, bring your address CompuServe.COM down to lower case, otherwise you might not get any mail at all, if somebody copies it verbatim.

Best to address it Internet:100623.303@compuserve.com

Phil G1LKJ

Sorry cannot comment on the IC-2SAT. I have a IC2WE though which is very similar.

1144. Re: Morse code to text display wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: buydens@duke.usask.ca
Message-ID: <4fno2u$t1h@tribune.usask.ca>
Source record: 107411
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc

I believe the SuperMorse program also has provisions for translating cw to text.

Brian.

Ference Kish (fkish@attila.mtx.net.net) wrote:

: > >
: > >Hi. My dad is a Ham operator, and asked me if there were some
: > inexpensive
: > >way to have incoming Morse code automatically translated and displayed
: > on
: > >a CRT. Since I know nothing about Ham radio, I thought I'd post here.

: There is a program called MORSEFFT which you should be able to find on the net
: (use ARCHIE to find the site storing it)

: It needs a sound blaster card as an input device. It comes with C source code,
: too

--
Brian Buydens There was a young poet named Dan,
Department of Computing Services Whose poetry never would scan.
University of Saskatchewan When told this was so,
email: Brian.Buydens@usask.ca He said, "Yes, I know.
VE5RDV

1145. Re: Loaded Q

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9601128241.AA824145910@mails.imed.com>
Source record: 107412

Ference Kish Asked about loaded Q in Bowick's book. I, too, was confused at first when reading Mr. Kish's post. The first time I had to teach this to students who barely understood what reactance was, I had to reread the texts VERY carefully. I missed a couple of subtle points when I learned this subject the first time.

Probalby the biggest problem is the names we use for the circuits. First a RESONANT circuit is by DEFINITION series resonant! As the British say, a circuit composed of parallel elements is ANTI-RESONANT! The two circuits behave decidedly differently and SHOULD NOT be called by the same name (that's what confuses folks).

Let's look at the RESONANT circuit first. It is composed of 3 elements: an inductor in series with a capacitor in series with a resistor (which is composed of the parasitic R of the inductor plus ALL of the load resistance). The formula for Q:

Q= Xl/R

Note that R does not affect the resonant frequency.

Now lets look at an ANTI-RESONANT circuit. It is composed of FOUR elements. It has a capacitor in parallel with the load resistance which is in parallel with a series circuit composed of the inductor and the parasitic resistance of the coil. You can transform this 4 element circuit into the analogous circuit for the resonant circuit. You then end up with a resistance in parallel with a capacitance in parallel with an inductance. The math to do this is too complicated to explain here. Any textbook can do a better job than I can in an e-mail.

For an ANTI-RESONANT circuit the formula for Q is:

Q = Reffective/ Xl

Reffective is the load resistance in parallel with the transformed parasitic resistance.

In order to get the highest unloaded Q you want the ratio of Xl to parasitic R to be as high as possible. This is MUCH easier to do with smaller values of L where you use just a few turns of large wire. The inductance tends to go up more slowly than parasitic resistance when the number of turns goes up! This is a physical effect as a consequence of needing to use smaller wire diameter as you add more turns.

A couple of examples may help:

An inductor with 10 Ohms Xl and 1 Ohm resistance transforms to 9.99 Ohms XL in parallel with 101 Ohms resistance.

An inductor with with 10 Ohms Xl and 0.1 Ohm resistance transforms to 10 Ohms Xl in parallel with 1000 Ohms resistance.

The loaded Q is obtained by getting the parallel equivalent of the load resistance in parallel with the parasitic resistance equivalent. From this you can see that you want the contribution of the parasitic to be as small as possible so that the loaded Q is dominated by the load resistance. This means for a PARALLEL circuit you want the parasitic resistance equivalent to be MUCH larger than the load resistance.

Since we are using a much smaller inductor to keep the ratio of inductance to parasitic resistance, we must use a LARGER C to get the same anti-resonant frequency.

One SUBTLE difference between the resonant and anti-resonant circuits: for a resonant circuit the parasitic resistance DOES NOT change the frequency; for the anti-resonant circuit the parasitic (not the load) resistance changes the frequency!!!

Another thing to note: you need higher Xl for good Q in a resonant circuit as long as the parasitic resistance is smaller than the load resistance, you need smaller Xl in an anti-resonant circuit to get good Q.

I hope this has cleared up some of the confusion.

Ray Mack
WD5IFS
mack@mails.imed.com

1146. Re: Be a Radio Disk Jockey!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4fnhot$p5c@usenet.continental.com>
Source record: 107413

>> The money is good, the hours are flexible. . .
>>. . .
>
>Wow! Sounds like two things have changed a whole lot since my radio days.
>
>Roy Lewallen, W7EL

Since these two things haven't changed in twenty years, I left the dead broadcasting industry last year. It's a loser unless you're 100% into sales.

-Paul, N9AZ

1147. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4fmtp2$ion@abyss.West.Sun.COM>
Source record: 107414

In article <4fiqeh$189@hpcvsnz.cv.hp.com>, Tom Bruhns <tomb@lsid.hp.com> wrote:
>David A Willmore (willmore@whelk.cig.mot.com) wrote:
>: It seems that every time I look for information on PLL loop filter design,
>: they focus on simple implementation of the loop filter. Is it because
>: simple one or two pole filters are the ideal filters for this use or
>: is there some other design constraint involved? The filter only has to
>: work in the audio range--from my understanding. Would a brick wall, low
>: pass filter of a high order be a better solution? What if you could widen
>: the passband while tuning and narrow it down once you have aquired lock?
>
>The problem is that the filter is part of a closed-loop feedback control
>system. If you have unity gain and net 360 degrees phase shift in the
>loop, you are going to have oscillations. Since high-order filters have
>large phase shifts where their gain is still high, they aren't appropriate
>for use in a closed loop.

What is important to look at is the loop Bode plot; it is easy to design
a filter to one particular parameter (minimum reference feedthrough OR
fast lock-up time OR ..., etc.) but the real task is to balance between
several conflicting design goals, one of which is loop stability. A Bode
plot of the loop response is important (and not difficult to do) to
make sure the loop is stable. At the same time, be sure to take into
account the changing loop parameters (mostly VCO gain) over the operational
range; you'll need to calculate loop stability at both extremes of VCO
gain to make sure it doesn't break into oscillaton (don't forget to include
overshootas part of the VCO extreme).

Don't forget that noise in the loop filter directly translates to
noise in the VCO output, and more complicated filters tend to be
noisier, which can ruin otherwise good phase noise performance.

Of course, the filter is there to stabilize the loop and minimize
undesired reference frequency modulation of the VCO, so you might do
as suggested in one Motorola app note and design the "right" loop
filter and then follow this with a notch filter at the reference
frequency in order to gain a way to independently achieve both goals.

Also, don't forget I'm a computer programmer and not a PLL designer ;-)

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1148. Re: Poor Man's Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: <>
Message-ID: <4fn1jf$qb4@central.co.nz>
Source record: 107415

In article <4f971p$msa@aphex.direct.ca>, ccouplan@direct.ca says...
>
>Looking for a project article titled "Poor Man's Packet" found in the
>August 1991 (pg. 8) of `73: Amateur Radio Today'.
>Any help in locating this would be greatly appreciated.

I have the article. I ordered the software from the author, built the PMP system from the junkbox (purchased the IC) and it works fine.

You should be able to get the original copy of 73 from a good library.

E-Mail me if you get really stuck.

Barry Lennox

1149. Re: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: steve harris <sxh19@po.cwru.edu>
Message-ID: <311F10A3.5B50@po.cwru.edu>
Source record: 107416

michael silva wrote:
good book. Try KBR (krauss, Bastion, Raab) for more rigor.
One explanation for your confusion is as follows:

f0 = K * (LC)^0.5, K is constant (1/2pi)

given f0, raising C will "lower" L, this I think
you know.

Now remember that an inductor is manufactured from
some REAL world material (usually metal), eg wire.

Same for the cap.

Turns out that the losses in the
cap's dielectric (and any other effects) are much
lower than the losses in an inductor of comparable
impedence. The inductor's losses are almost all
due to the resistence.

Hope this helps.

steve

>
> In <NEWTNews.823681677.16889.fkish@attila.mtx.net.au> Ference Kish
> <fkish@attila.mtx.net.net> writes:
>
> > On pages 34 and 35 the book discusses the loaded Q of a resonant
> > circuit; explains the effect of the source and load resistance on
> > the Q of the tuned circuit.
> >
> > Where I got a bit confused is Eq 2-6 onward. Bowick says that the
> > Q of the circuit is
> >
> > Q = Rp /Xp
> <...>
> > No comes the tricky bit: He than concludes (if I've read it
> correctly)
> > that the best way of doing this is by INCREASING the capacitance...
> <...>
> > I thought the more inductance we have the better the Q of the tuned
> circuit
> > will be.
>
> This is often confusing (to me as well), because whether you use R/X or
> X/R depends on whether you're talking about a parallel or series

> circuit. These definitions of 'Q' are just derived from the more
> fundamental meaning (ratio of 'lossless' power to power dissipated), so
> it helps to go back to the fundamental meaning when thinking of X's and
> R's. In a parallel tuned circuit, such as the one in your example, the
> voltage across the circuit is the independant variable (kind of...), so
> to increase the ratio of lossless power to dissipated power you need to
> increase the ratio of current thru the X's to current thru the R. You
> do this by decreasing the X's (higher C, lower L). Another way to look
> at this is that lower X's in a parallel circuit will shunt the voltage
> across the circuit faster as you move away from resonance, thus giving
> the sharper peak of a higher-Q circuit.
>
> For series circuits the situation is reversed, with current being the
> independant variable (again, kind of...). Here the way to increase the
> ratio of lossless power to dissipated power is to increase the voltages
> across the X's by making them larger (lower C, higher L). Then as you
> move away from resonance the dominant X (the one that's rising) will
> reduce the current faster, resulting in a sharper peak once more.
>
> I know I've done a lot of hand-waving here, but I've tried to explain
> it in an intuitive way. Hope it was helpful.
>
> BTW, I think Bowick's book is great.
>
> 73,
> Mike, KK6GM

1150. Re: Morse code to text display wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: jaccom@ambrosia.knoware.nl
Message-ID: <4fo1r6$hrc@news.knoware.nl>
Source record: 107417
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc

In article <4fno2u$t1h@tribune.usask.ca>,
buydens@duke.usask.ca (Brian Buydens) wrote:
>
>I believe the SuperMorse program also has provisions for translating cw to
text.

No it's not. Its a Morse code training programme

1151. noise source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: sabinw@crpl.cedar-rapids.lib.ia.us
Message-ID: <4fnhg4$tqe@flood.weeg.uiowa.edu>
Source record: 107418

>There was a thread running a couple of weeks back on construction of a
>diode noise source that was described in QST.

That article is "A Calibrated Noise Source for Amateur Radio" by
W.E. Sabin, in the May 1994 QST. This article is also found in the
ARRL Handbook, 1995/1996 editions.

1152. Multiplexing was Re: Stereo xmitter chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: drm6@psu.edu
Message-ID: <drm6.51.311FA529@psu.edu>
Source record: 107419

Other stuff deleted

>I don't know if multiplex transmitting is
>legal on the ham bands.

> --David
>--
>David Kazdan, M.D., Ph.D dxk10@po.cwru.edu; Amateur Radio: AD8Y

Greetings to David and the group,

I believe ATV qualifies as a multiplexed signal. So yes, multiplexed signals
are permitted on the ham bands.

Drew R. McGhee, KA3EJV
Altoona, PA

1153. Ham Radio Online goes Interactive! Check us out!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4fnpc6$38f@news.accessone.com>
Source record: 107420
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.space,rec.radio.amateur.antenna,,rec.radio.amateur.equipment,rec.radio.amateur.policy,rec.radio.scanner,rec.radio.shortwave

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The February 1996 edition of Ham Radio Online International Magazine
is available at http://www.accessone.com/~vbook/hronline.htm

Some of the NEW February stories include a review of SkyTel's "2-way paging" system,
radio surveillance frequencies, and the effects of two-way radio operation in blasting
zones.

Ham Radio Online has been selected as a featured web site by America Online
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do with radio telecommunications.

And we plan to offer some totally cool new services during the coming months. As
always its free and free of ads.

Thanks to you, we had over 10,000 readers stop by during January!

Please enjoy!

73, Ed Mitchell
KF7VY
vbook@vbook.com
http://www.accessone.com/~vbook/hronline.htm

---
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free, at http://www.accessone.com/~vbook/hronline.htm

1154. Re: Need ID: Motorola final/ MRF327-8851

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4foee7$k5t@globe.indirect.com>
Source record: 107421

rickcrider@aol.com (RICKCRIDER) wrote:

>Peering inside of an amplifier that I aquired at a military surplus store,
>trying to figure out what band it is for and what the power output is.
>It takes a 28v DC power supply. Has 'N' type connectors for in and out.
>Made by 'TPL Com Inc.
>Inside there are five identical circuit boards tied together, with the
>heart of each board appearing to be Motorola brand finals. White ceramic
>looking discs, about 1/2" in diameter and 1/8" thick. On them is the
>Motorola logo and the following:
>MRF327 (on the top line) and 8851 directly under the top line. Any
>techies out there know what frequencies these may operate at, and at what
>power output?
>I really have no idea what I have here. It is modern, and brand new.
>Just don't know how to figure out what it was made for.

Another gentleman described the device itself, and I'll add that the
"8851" means the part was manufactured in 1988. The "51" could mean
Day 51 or May 1. These codes vary, tho I'll bet the military has a
standard, which I don't know.

Fersure don't miss Motorola's Web site:

http://motserv.indirect.com/

There is a HUGE amount of information there, including a lot of nice
downloadable data sheets in Adobe Acrobat format.

Good luck with that rig.

--73--

--JD--

1155. Re: QRP Schematics scanned and ready!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-1202961844320001@d105.nb.interaccess.com>
Source record: 107422

In article <DMLxIp.78n@djwhome.demon.co.uk>, David Woolley
<david@djwhome.demon.co.uk> wrote:

> In article <heiss.43.0048263F@ualr.edu>, <heiss@ualr.edu> wrote:
> >
> >I think here is as good a place as any to post them. Personally I would
> >prefer JPEG's. I would start with one and see what kind of response
you get.
> >They should be uuencoded first.
>
> Do not post them here. This is not a binaries group and news admins don't
> like hidden binaries groups; they are even more likely to block them than
> overt binaries groups.

Amen!

They are likely to be cancelled by admins.

Post them to alt.binaries.pictures.misc. and post a message here saying
they are there. Then we'll know where to go to get them.

Dave Moorman, K9SW
Downers Grove,
Illinois,
USA

1156. Re: Help design coil for coupling 2 amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-12 00:00:00 UTC
From: frbspd@crl.com
Message-ID: <4fp5be$6k4@crl7.crl.com>
Source record: 107423
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <4fkhdu$4e9@aldebaran.sct.fr> opworld@worldnet.fr writes:
: >I would like to add the power of two identical amplifiers in 80-120MHz
: >range with 300W each.
: >
: >I don't know how.
: >
: >I believe that you have to apply signal to each amplifier (invert one
: >signal like LF amplifier ?) adapting impedance (50 ohms -> 50 + 50
: >ohms). For output add power with impedance matching.

: What you need is called a Wilkinson power splitter/combiner. This
: will divide the drive power equally between the amplifiers, and
: combine their output powers. Phase is maintained identical through
: both paths, except for the differences in phase internal to the two
: amplifiers. That can be compensated by using an adjustable phase
: shifting network at the input of one of the amplifiers, IE a line
: stretcher or the like, and adjusting to null reject power. You
: may also need to be able to control the gain of one of the amplifiers
: so that you can exactly match amplitude response too, again adjusting
: to null reject power.

: Wilkinson networks are easy to build for a specific frequency. In
: your range they would just be lengths of coax and a reject load
: resistor. To cover the entire 80-120 MHz spread without retuning
: would be more difficult. See any RF handbook for details of building
: Wilkinson splitters and combiners.

: Gary
: --
: Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
: Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
: 534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
: Lawrenceville, GA 30244 | |

Here are the dimensions for the Wilkinson Hybrid for 88-108 Mhz. Its
center frequency is 97.49 Mhz. You will need two lengths of PTFE
(Teflon) 75 ohm coaxial cable suitable for the power level being used.
Do not use anything other PTFE cable. The length is 54.4 centimeters.
connect in a V configuration. For the splitter to drive the two amps,
at one end of the cables conncect the two center conductors together and
the shieldst to ground, this is your input. At the other end of the two
cable are your two output ports to the two amps. Shields are connected
to ground with the two center conductor becoming the two output ports. A

100 ohm non-inductive resistor is connected between the two output ports. It has to have a dissipation equal to 1/2 of the applied power. For the combiner use the above configuration but the output ports become the input ports for the two amps and the input port becomes the output port. You will need a non-inductive resistor with a 150 watt capability, these are made especially for RF, contact Richardson Electronics for them.

Stephen Dunifer

1157. Re: W1FB's univ. dc rx

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: MGMT23A@prodigy.com
Message-ID: <4fop0n$vrc@usenetw1.news.prodigy.com>
Source record: 107283

I have second edition of the book and C3 is shown as 100 pf. I built it
and
it works fine. I added a little more audio filtering after I built it
since I work
only CW. 73, Jim KD5KJ

1158. Looking for interconnection cable for HP8505, 8501 or 8750

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <4fov83$s7k@brickbat.mindspring.com>
Source record: 107284
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space,rec.radio.scanner,rec.radio.swap,rec.video.cable-tv,rec.video.satellite.dbs,rec.video.satellite.tvro

I am in desperate need of a couple interconnection cables for the
HP8505 network Analyzer. The cable is a D-connector with 17 pins and
7 coax cables, but only six are used. If you have any info on where I can
find some I would appreciate it.

Thanks
AC4OP
Pieter
wave@mindspring.com
http://www.mindspring.com/~wave

1159. FT-8500 Need Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: rod@venus.hili.com
Message-ID: <4fov69$l98@news.ios.com>
Source record: 107285
Cross-posted to:
rec.radio.scanner,alt.radio.scanner,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Someone have the mods for FT-8500?

Email: rod@venus.hili.com
N2RVM

1160. Re: WTB HW-9 OR SIMILAR QRP RIG

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: flanders@znet.groupz.net
Message-ID: <4fqb1r$stj@news1.sunbelt.net>
Source record: 107286
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap,rec.radio.swap

I am looking for a Heath HW-9 QRP rig or similar. Any condition
considered, but must have manual. Accessories OK,
but not required. Please quote exact condition, appearance,
accessories and price.

Thanks

Jerry Flanders W4UKU South Carolina flanders@groupz.net

1161. Re: Need ID: Motorola final/ MRF327-8851

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-1302960601270001@squaw-d102.sierra.net>
Source record: 107287

MRF327's are 80W broadband controlled Q transistors for frequencies 100-500 MHz with guaranteed 400Mhz 28VDC performance. The 8851 number is the 51st week of 1988 when they were built. Call your local motorola office and ask for the data sheet; they shouldn't balk at sending it out, just don't tell them the surplus/curiousity story...

Rgds, Bob

1162. Apologises for multiple mailings.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: Philip Manning <P.Manning@ee.surrey.ac.uk>
Message-ID: <4fq1tq$ef7@info-server.surrey.ac.uk>
Source record: 107288

Sorry folks, murphy's law occurred, re my mailing on Icom IC-2SAT article.

Phil Manning G1LKJ

1163. NEED GPS INFORMATION MY NEW HOBBY!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: rstapestry@aol.com
Message-ID: <4fpefq$pf8@newsbf02.news.aol.com>
Source record: 107289

I wish to build a working GPS reciever. Can anyone out there provide me with links to the technical data and/or circut designs to build one? I don't believe that it's proprietary, so someone out there must have built their own... right?
Any help is appreciated.

Btw, I'm 16 and also into robotics. Parts Donations Welcome (low budget here!!).
Thanx

1164. Re: RF remote control link to toy.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: Dave Curtis <david_b_curtis@ccm.sc.intel.com>
Message-ID: <4fqfmo$t03@inews.sc.intel.com>
Source record: 107290

thinker335@aol.com (Thinker335) wrote:
>
>I am interested in making a remote controlled toy robot that has a
>relatively high BW (~ 19.2 Kbaud) full duplex (if possible) connection to
>a computer base station.
>
>I don't want to violate FCC regulations, and I don't want to have to get a
>license. Except for the 900 - 928 MHz spread specturm band, is there any
>portion of the spectrum that allows unlicensed usage of this type ?

Perhaps the ISM (Industrial/Scientific/Medical) band(s) -- there is one
around 2.3GHz, shared with a ham band.

>
>Also, what do frequencies are used for commercially available radio
>controlled toys ?

I know of three bands, to my knowledge limited to one of 2 modulation schemes.
One sold as "FM", where PPM servo control data is FM modulated, and "PCM" where
digital servo control data is sent as a digital code. "AM" has been phased out.
There are some channels in the 27 MHz CB band -- good luck here. R/C flyers abandoned
this band a long time ago due to encroachment from illegal CB voice communications.
(There, I said that as nicely as I could.)
There are some frequencies allocated for R/C in the 50 MHz ham band, you need a
Technician class ham license here. And then there is a band at 72 MHz, between
TV channels 4 & 5. Also, there are toys with low power transmitters operating
under part 15 rules at 49 MHz.

>
>How would I find information on FCC regulations on the RF spectrum < 1
>GHz ?
>
>Thanks in advance.

-Dave NG0X

1165. Any Interest in Some Filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1996Feb13.150343.29908@schbbs.mot.com>
Source record: 107291

I have a number of crystal filters laying around that
might be of interest to the experimenter community here.

These are 11.4 MHz available in both USB and LSB. The
passband is about 300 to 2900 Hz, with 5 db of insertion
loss, and 21 to 29 db of carrier supression. These
values represent typical numbers I have seen on several
samples that apparently have been measured at one time or
another.

These filters are composed of a set of three individual
filters that are cascaded. More could be cascaded together
for steeper skirt response. It may be possible to narrow
the response (as is done in normal ladder filters) by using
larger termination load capacitance.

I myself have not used these, so I don't know the terminating
resistance or the load capacitance to get the desired filter
shaping.

If you are interested, I am asking $5.00 per set and I will
pay for shipping. Please indicate if you want Upper Sideband
or Lower Sideband or if you really don't care.

Thanks!

- Dan Tayloe, WB0NVB, Phoenix, AZ

1166. Re: Arizona Microschip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960213094038.15953E-100000@biggulp.callamer.com>
Source record: 107292

Thanks Paul for the reply. Appreciate your help. Cliff Buttschardt W6HDO

On 9 Feb 1996, Paul Ostby wrote:

>
> > Recently, I ran across a reference to Arizona Microchip devices which was
> > interesting. Does anyone have an address or a clue as what they
> > manufacture? I suspect it might be a "STAMP" product but I am not
> > sure. They have a development kit available too.
> > Cliff Buttschardt W6HDO Morro Bay, Calif
>
> Microchip Technology Inc. manufactures some nifty CMOS microcontrollers. I've
> used them for several years now. They are hard to beat for high speed, low
> power, and low cost. The address from their most recent databook is:
> Microchip Technology Inc.
> 2355 West Chandler Blvd.
> Chandler, AZ 85224-6199
> Tel: 602.786.7200
> Fax: 602.899.9210
>
> Microchip also manufactures various EPROMs, EEPROMs, an LCD controller, and some
> other miscellaneous chips. You can download datasheets from their web site at:
> http://www.ultranet.com/microchip
>
> The BASIC Stamp is manufactured by Parallax, Inc. The Stamp uses a Microchip
> controller for the CPU, but Parallax adds an EEPROM and a BASIC interpreter.
>
> Paul Ostby, KC7CKU
>
>
>

1167. Re: Use for ferite materials???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: Jim Strohm <"Jim Strohm"@ausq1ak>
Message-ID: <4fql89$11as@newsgate.sps.mot.com>
Source record: 107293

A pair of the ferrite cones can be used as a filter for your phone line -- take a half a dozen turns through the core.

If you had hundreds of these cores, you might find a sculptor who is working with "found" art who could use them.

That's all I've found you could do with yoke cores.

We already know that flyback transformer cores can be used in some toroid applications such as filament chokes.

N6OTQ
The line for flames forms over there. Take a number- 196.
Now serving number 3.

1168. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-13 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4fqv92$9nr@news3.cts.com>
Source record: 107294

David A Willmore (willmore@whelk.cig.mot.com) wrote:
: It seems that every time I look for information on PLL loop filter design,
: they focus on simple implementation of the loop filter. Is it because
: simple one or two pole filters are the ideal filters for this use or
: is there some other design constraint involved? The filter only has to
: work in the audio range--from my understanding. Would a brick wall, low
: pass filter of a high order be a better solution? What if you could widen
: the passband while tuning and narrow it down once you have aquired lock?

Just offhand, I would say the varying phase shifts as you moved
across a complex filter would be very unsetting to loop dynamics.

Looking at someone's synthesizer IC the other day (National?) that
brings out a pin called QuickLock which can be used to throw a
shunting resistor in a simple lead/lag network to speed up the
lock time.

: Just a few thoughts and questions. BTW, anyone have a good VCO design for
: 60.7 to 64.7 MHz? :)

Years ago now, I had very good luck using a capacitor at the end
of an ~ 1/4 wavelength of coax to replace the inductor in a VCO,
to get higher Q and thus lower phase noise. Use minature coax, and
just roll it up out of the way.

John Kolb KK6IL jlkolb@cts.com

1169. Re: ICOM IC-2SAT HELP!?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: "Gary P. Fiber" <gfiber@halcyon.com>
Message-ID: <4fro6u$gob@news.halcyon.com>
Source record: 107295
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,uk.radio.amateur

>1) does this radio have a tone burst for reapeter use ,if so how
>is it operated?

On the 2SAT, 1750 Hz burst could be added if the serial number was below about 9500, also the minimum offset tuning step size needed to be 25 kHz. Here you would need to convert the radio to a european version and install 2 SMD resisotrs. After S/N 9500 or so the offset tuning was made adjustable and the 12.5kHz tuning step was removed, also so was the ability to have a 1750 hz tone burst. The reason was to free enough memory in the CPU to have the adjustable offset tuning steps rather than the original fixed 25 khz tuning in the earlier model 2SAT radios.

>2) my radio seems to have rx 100-200 Mhz and tx 140-150Mhz
>but the disply will read 0-1300 Mhz. does this mean it can
>be made to receive from 0-1300 Mhz if so how?

The radio will actually receive from 110 to 136 aircraft A.M. and 136 to 174 Mhz F.M. Signals above or below this range are usually overloads or images. The tuning ability never stopped in the CPU program, how ever the VCO never had the kind of range the frequency readout would report.

Gary

1170. Re: Anyone else read Bowick's RF circuit Design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: blair@mksim8.dseg.ti.com
Message-ID: <4frh5i$d8n@mksrv1.dseg.ti.com>
Source record: 107296

ChrisBowick wrote:
: I am considering an update to the book (2nd Edition) and would be
: interested in any input, suggestions, corrections, etc. that any
: of you might have. Perhaps we can make it an even better
: reference book in the future!

Since you posted without an email address I guess I'll reply
here...
Since you asked... How about a chapter on microstrip design? I`ve
yet to find a usable book on the subject. I've seen alot of
theoretical tomes with scads of waveguide theory but nothing
on how to design, say, a filter with printed spiral inductors
and interdigital capacitors.
Luv the book,
Art.

1171. Re: 813 Xmtr for 160M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: ldesot@atl.com
Message-ID: <1996Feb13.172422@atl.com>
Source record: 107297

In article <4fnihv$co9@kocrsv08.delcoelect.com>, Tom Pfaffenbach
<tvpfaffe@mail.delcoelect.com> writes:
> The 1953 ARRL Handbook has an excellent design for a single 813 transmitter. It uses a
6AG7
> oscillator, 6L6 driver, 6Y6 clamper and an 813 as Power Amplifier. A Classic 1930's
design!
>
> Fair Radio in Lima Ohio has the ART-13 available in surplus again for $150. It covers
2-18 Mhz
> (and is easily re-worked for 160 thru 10 meters) and uses an 813 modulated with a pair of
> 811's. You might have more fun rebuilding the ART if you just want to run the 813's!
>

Hey, I had one of these things many years ago. Watching the autotune
operate is more fun than a barrel of monkeys. What's the address for
Fair Radio?

--
Larry **************************
* *
* Speaking for myself *
* *
****

1172. Re: Dummy load

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4frjcm$nhn@peabody.colorado.edu>
Source record: 107298

>From jackl@pinetree.microserve.com Fri Feb 9 17:37:46 MST 1996

tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:

>>These dummy loads work well past VHF frequencies and handle 2 watts
>>OK, everybody flame me now. N6OTQ

>I'll bite...
>"VHF frequencies" = very high frequency frequencies

>Actually, the first post was correct. The phrase "Very High
>Frequency" (abbreviated as "VHF") is an adjective. Despite the fact
>that we often treat it as a noun, such use is grammatically incorrect.
>"VHF" must be followed by the object it modifies, such as "band",
>"frequency", "transmitter", "antenna", etc.

Thanks for your correction! I'll be sure to update my dictionaries, which claim "frequency" is only a noun, including the online one (and therefore that "very high frequency" is also, just a particular piece of it):

spot> webster frequency

fre.quen.cy \-kw*n-se-\ n 1: the fact or condition of occurring frequently 2a: the number of times that a periodic function repeats the same sequence of values during a unit variation of the independent variable 2b: the number of individuals in a single class when objects are classified according to variations in a set of one or more specified attributes 3: the number of repetitions of a periodic process in a unit of time : as 3a: the number of complete alternations per second of an alternating current 3b: the number of sound waves per second produced by a sounding body 3c: the number of complete oscillations per second of an electromagnetic wave

and that VHF does _not_ mean "the band between 30 and 300 MHz of the electromagnetic spectrum," as erroneously defined on spectrum allocation charts, but is actually just a modifier.

I've got lots of updating to do: Turns out "dog" and "computer" are also adjectives, as in "dog cage" and "computer screen" - just like "VHF radio" and "VHF antenna." Zounds! Turns out _every_ noun is an adjective. "Noun" is an an adjective when used in "noun list"; it just modifies 'list'!

But before I do that, I have lots of other things to do. I better check the SWR ratio of my HF frequency antenna, because the ATU tuning unit blew an FET transistor, keeping me from tuning all the way up to the MUF frequency. In which case I'll have to go the the ATM machine (and type in my PIN number) to get some money to buy more IC circuits for the TTL logic part of the CPU unit's LED diode (and CRT tube) display driver, since it's all SNAFU'd up.

Too much DC current on the RF frequency (not the VHF frequency) RFI interference blocking choke. Or was it EMI interference, and AC current? I better get out the DMM meter, and follow the trouble-shooters standard SOP operating procedure.

I hate it when that happens.

Very best 73s's, and CUL later.

Bruce
N6URH

1173. Mail failure

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: POSTMASTER@MSPO1.MED.UTMB.EDU
Message-ID: <199602141436.GAA13775@UCSD.EDU>
Source record: 107299

FROM: Adminstrator
TO: Ham-Homebrew@ucsd.edu DATE: 02-14-96
TIME: 08:31
SUBJECT: Mail failure

User mail received addressed to the following unknown addresses:
UTMB/MSPO1/bdoreck

Ham-Homebrew Digest Wed, 14 Feb 96 Volume 96 : Issue 65

Today's Topics:
Any Interest in Some Filters?
File formats to download
Function and pinout for some RF IC
Help design coil for coupling 2 amplifiers
ICOM IC-2SAT HELP!?
Multiplexing was Re: Stereo xmitter chip?
Need ID: Motorola final/ MRF327-8851 (3 msgs)
QRP Schematics scanned and ready!
Schematics going to a web page
test msg
W1FB's univ. dc rx

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Tue, 13 Feb 1996 15:03:43 GMT
From: tayloe_d@sat.mot.com (Dan Tayloe)
Subject: Any Interest in Some Filters?

I have a number of crystal filters laying around that
might be of interest to the experimenter community here.

These are 11.4 MHz available in both USB and LSB. The
passband is about 300 to 2900 Hz, with 5 db of insertion

loss, and 21 to 29 db of carrier supression. These
values represent typical numbers I have seen on several
samples that apparently have been measured at one time or
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filters that are cascaded. More could be cascaded together
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the response (as is done in normal ladder filters) by using
larger termination load capacitance.

I myself have not used these, so I don't know the terminating
resistance or the load capacitance to get the desired filter
shaping.

If you are interested, I am asking $5.00 per set and I will
pay for shipping. Please indicate if you want Upper Sideband
or Lower Sideband or if you really don't care.

Thanks!

- Dan Tayloe, WB0NVB, Phoenix, AZ

Date: Mon, 12 Feb 1996 23:08:47 GMT
From: richardh@iinet.net.au (Richard Hosking)
Subject: File formats to download

G,day from Oz

I am setiing up a web page with articles on various topics in RF and
digital design. Current interests are DDS systems, SSB phasing
receivers and the PIC

Any ideas re

The best document format to download files?

Any sites with info on these topics?

Richard Hosking VK6BRO

VK6BRO
51 Sulman Rd
Wembley Downs
WA 6019

Date: 13 Feb 1996 14:07:10 GMT
From: Jean Marie Bussat <bussat@lapp.in2p3.fr>
Subject: Function and pinout for some RF IC

Hello,

Does anybody have (or may tell me where I can find) the pinout
and the function of the following IC's.

CX 7925 (nothing from Sony's Web site)
TC 5081 (nothing from Thoshiba)
TC 5082
TA 7310
HD 1055 (nothing from Hitachi)

There are in the PLL section of a RANGER RCI2950 tranceiver and
I want to understand how does it work. I've made some deductions
but I don't think they're all right.

Thanks for any kind of help.

Jean-Marie

+---+
| Jean-Marie Bussat - Laboratoire d'Annecy-le-vieux de Physique |
| des Particules - BP 110 - 74941 ANNECY-LE-VIEUX - FRANCE |
| Email: bussat@lapp.in2p3.fr |
| Tel: (33) 50 09 17 47 Fax: (33) 50 09 89 13 |
+---+

Date: 12 Feb 1996 20:50:54 -0800
From: frbspd@crl.com (Stephen Dunifer)
Subject: Help design coil for coupling 2 amplifiers

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: In article <4fkhdu$4e9@aldebaran.sct.fr> opworld@worldnet.fr writes:
: >I would like to add the power of two identical amplifiers in 80-120MHz
: >range with 300W each.
: >
: >I don't know how.
: >
: >I believe that you have to apply signal to each amplifier (invert one
: >signal like LF amplifier ?) adapting impedance (50 ohms -> 50 + 50
: >ohms). For output add power with impedance matching.

: What you need is called a Wilkinson power splitter/combiner. This
: will divide the drive power equally between the amplifiers, and
: combine their output powers. Phase is maintained identical through
: both paths, except for the differences in phase internal to the two
: amplifiers. That can be compensated by using an adjustable phase
: shifting network at the input of one of the amplifiers, IE a line
: stretcher or the like, and adjusting to null reject power. You
: may also need to be able to control the gain of one of the amplifiers
: so that you can exactly match amplitude response too, again adjusting
: to null reject power.

: Wilkinson networks are easy to build for a specific frequency. In
: your range they would just be lengths of coax and a reject load

: resistor. To cover the entire 80-120 MHz spread without retuning
: would be more difficult. See any RF handbook for details of building
: Wilkinson splitters and combiners.

: Gary
: --
: Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
: Destructive Testing Systems | we break it. | emory!kd4nc!ke4zv!gary
: 534 Shannon Way | Guaranteed! | gary@ke4zv.atl.ga.us
: Lawrenceville, GA 30244 | |

Here are the dimensions for the Wilkinson Hybrid for 88-108 Mhz. Its
center frequency is 97.49 Mhz. You will need two lengths of PTFE
(Teflon) 75 ohm coaxial cable suitable for the power level being used.
Do not use anything other PTFE cable. The length is 54.4 centimeters.
connect in a V configuration. For the splitter to drive the two amps,
at one end of the cables conncect the two center conductors together and
the shieldst to ground, this is your input. At the other end of the two
cable are your two output ports to the two amps. Shields are connected
to ground with the two center conductor becoming the two output ports. A
100 ohm non-inductive resistor is connected between the two output
ports. It has to have a dissipation equal to 1/2 of the applied power.
For the combiner use the above configuration but the output ports become
the input ports for the two amps and the input port becomes the output
port. You will need a non-inductive resistor with a 150 watt capability,
these are made especially for RF, contact Richardson Electronics for them.

Stephen Dunifer

Date: 14 Feb 1996 04:25:02 GMT
From: "Gary P. Fiber" <gfiber@halcyon.com>
Subject: ICOM IC-2SAT HELP!?

>1) does this radio have a tone burst for reapeter use ,if so how
>is it operated?

On the 2SAT, 1750 Hz burst could be added if the serial number was below
about 9500, also the minimum offset tuning step size needed to be 25 kHz.
Here you would need to convert the radio to a european version and install
2 SMD resisotrs. After S/N 9500 or so the offset tuning was made
adjustable and the 12.5kHz tuning step was removed, also so was the ability
to have a 1750 hz tone burst. The reason was to free enough memory in the
CPU to have the adjustable offset tuning steps rather than the original
fixed 25 khz tuning in the earlier model 2SAT radios.

>2) my radio seems to have rx 100-200 Mhz and tx 140-150Mhz
>but the disply will read 0-1300 Mhz. does this mean it can
>be made to receive from 0-1300 Mhz if so how?

The radio will actually receive from 110 to 136 aircraft A.M. and 136 to
174 Mhz F.M. Signals above or below this range are usually overloads or

images. The tuning ability never stopped in the CPU program, how ever the VCO never had the kind of range the frequency readout would report.

Gary

Date: Mon, 12 Feb 1996 20:38:01 GMT
From: drm6@psu.edu (Drew R. McGhee)
Subject: Multiplexing was Re: Stereo xmitter chip?

Other stuff deleted

>I don't know if multiplex transmitting is
>legal on the ham bands.

> --David
>--
>David Kazdan, M.D., Ph.D dxk10@po.cwru.edu; Amateur Radio: AD8Y

Greetings to David and the group,

I believe ATV qualifies as a multiplexed signal. So yes, multiplexed signals are permitted on the ham bands.

Drew R. McGhee, KA3EJV
Altoona, PA

Date: Tue, 13 Feb 1996 09:19:23 -0400
From: bcollett@hamilton.edu (Brian Collett)
Subject: Need ID: Motorola final/ MRF327-8851

In article <4fkc8c$1gq@newsbf02.news.aol.com>, rickcrider@aol.com (RICKCRIDER) wrote:

> Peering inside of an amplifier that I aquired at a military surplus store,
> trying to figure out what band it is for and what the power output is.
> It takes a 28v DC power supply. Has 'N' type connectors for in and out.
> Made by 'TPL Com Inc.
> Inside there are five identical circuit boards tied together, with the
> heart of each board appearing to be Motorola brand finals. White ceramic
> looking discs, about 1/2" in diameter and 1/8" thick. On them is the
> Motorola logo and the following:
> MRF327 (on the top line) and 8851 directly under the top line. Any
> techies out there know what frequencies these may operate at, and at what
> power output?
> I really have no idea what I have here. It is modern, and brand new.
> Just don't know how to figure out what it was made for.

According to my Motorola RF Device Data handbook the MRF327 is an 80W 100-500MHz controlled Q broadband RF power transistor. Guaranteed 80W output over 225-400MHz, min gain 7.3dB at 400MHz. Now what you would do with five identical boards like that is a different question but they are

VHF broadband finals and the 8851 is almost certainly a date code
indicating that they were manufactured in about May 1988.
Hope this helps.

Date: Tue, 13 Feb 1996 06:01:27 -0800
From: rst@tetrault.com (Bob T.)
Subject: Need ID: Motorola final/ MRF327-8851

MRF327's are 80W broadband controlled Q transistors for frequencies
100-500 MHz with guaranteed 400Mhz 28VDC performance. The 8851 number is
the 51st week of 1988 when they were built. Call your local motorola
office and ask for the data sheet; they shouldn't balk at sending it out,
just don't tell them the surplus/curiousity story...

Rgds, Bob

Date: Mon, 12 Feb 1996 22:18:18 GMT
From: jeffd@coriolis.com (Jeff Duntemann)
Subject: Need ID: Motorola final/ MRF327-8851

rickcrider@aol.com (RICKCRIDER) wrote:

>Peering inside of an amplifier that I aquired at a military surplus store,
>trying to figure out what band it is for and what the power output is.
>It takes a 28v DC power supply. Has 'N' type connectors for in and out.
>Made by 'TPL Com Inc.
>Inside there are five identical circuit boards tied together, with the
>heart of each board appearing to be Motorola brand finals. White ceramic
>looking discs, about 1/2" in diameter and 1/8" thick. On them is the
>Motorola logo and the following:
>MRF327 (on the top line) and 8851 directly under the top line. Any
>techies out there know what frequencies these may operate at, and at what
>power output?
>I really have no idea what I have here. It is modern, and brand new.
>Just don't know how to figure out what it was made for.

Another gentleman described the device itself, and I'll add that the
"8851" means the part was manufactured in 1988. The "51" could mean
Day 51 or May 1. These codes vary, tho I'll bet the military has a
standard, which I don't know.

Fersure don't miss Motorola's Web site:

http://motserv.indirect.com/

There is a HUGE amount of information there, including a lot of nice
downloadable data sheets in Adobe Acrobat format.

Good luck with that rig.

--73--

--JD--

Date: Mon, 12 Feb 1996 18:44:31 -0600
From: dmoorman@interaccess.com (Dave Moorman)
Subject: QRP Schematics scanned and ready!

In article <DMLxIp.78n@djwhome.demon.co.uk>, David Woolley
<david@djwhome.demon.co.uk> wrote:

> In article <heiss.43.0048263F@ualr.edu>, <heiss@ualr.edu> wrote:
> >
> >I think here is as good a place as any to post them. Personally I would
> >prefer JPEG's. I would start with one and see what kind of response
you get.
> >They should be uuencoded first.
>
> Do not post them here. This is not a binaries group and news admins don't
> like hidden binaries groups; they are even more likely to block them than
> overt binaries groups.

Amen!

They are likely to be cancelled by admins.

Post them to alt.binaries.pictures.misc. and post a message here saying
they are there. Then we'll know where to go to get them.

Dave Moorman, K9SW
Downers Grove,
Illinois,
USA

Date: Wed, 07 Feb 1996 04:34:27 GMT
From: kmiller@airmail.net (Kerry W. Miller)
Subject: Schematics going to a web page

Hello again, guys!

Well, I asked before I posted the schematic and got many good
suggestions about where/how to post the schematics. Now that I've
posted the first one, everyone has been very helpful except for a few
flames from those who didn't appreciate me using up the bandwidth in
the newsgroup. I knew it might be a hardship on some folks, that's
why I asked first! Wish they'd have said something before I did it!

To accomodate those who don't want them on the newsgroup, I'll be
sending them to a gentleman who offered to put them on his QRP web
page. When I finish cleaning up the scans, I'll send him the files
and you can find them there when he has time to upload them.

If there is anyone who doesn't have access to a web browser or can't
get to them, let me know and I'll put the drawings into one big zip

file and send them via email. The whole lot of them will be around
250Kb, so it won't be unbearable.

Hope this works, I'm sending this note with Eudora and I've never
tried making a mailing list before! I'll drop a note on the newsgroup
for anybody who misses it. Thanks for your patience and suggestions.

The web page to watch belongs to:

John R. Cunliffe N2NEP
cunliffe@frontiernet.net
http://www.frontiernet.net/~cunliffe

Keep an eye out for it, maybe the schematics will appear there in the
next week or so. Make a bookmark!
73,
Kerry Miller

Date: 14 Feb 96 15:41:42 GMT
From: vk2esl@vk2djg.une.EDU.AU (Steve Lisle)
Subject: test msg

just seeing if this gets to the digest ok.

Date: 13 Feb 1996 01:20:23 GMT
From: MGMT23A@prodigy.com (Jim Huff)
Subject: W1FB's univ. dc rx

I have second edition of the book and C3 is shown as 100 pf. I built it
and
it works fine. I added a little more audio filtering after I built it
since I work
only CW. 73, Jim KD5KJ

End of Ham-Homebrew Digest V96 #65
****

1174. Any ham VHF prop map pgms?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: drygalo@freenet.edmonton.ab.ca
Message-ID: <4ft928$ggg@news.sas.ab.ca>
Source record: 107300

Does anyone know of a moderate cost (cheap) VHF/UHF propagation coverage mapping program out there for DOS? We have a good sprinkling of repeaters out here and it would be a usefull project to put a booklet together with coverage contours. That would make using the repeaters much easier when traveling. 73 de VE6MIL !

1175. Re: NP0 vs. C0G Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: bill.sorsby@dlep1.itg.ti.com
Message-ID: <4ft9t0$i81@mksrv1.dseg.ti.com>
Source record: 107301

In article <4f8m9j$ddp@usenet.continental.com>, paulc@jax.se.continental.com says...
>
>I'm seeing conflicting information on the technical specifications (i.e., >temperature coefficient) of NP0 and C0G capacitors. Some sources >indicate they're identical; others show slight percentage differences >between the two.

Hi Paul,

Since no one else has come forward, I'll offer my two cents worth. NPO stands for Negative-Positive-Zero. COG is a type of ceramic dielectric, much as Z5U and X7R are. COG is considered to be an NPO, whereas Z5U and X7R capacitors vary radically with temperature.

I'm not aware of a standard, although there could be one. If your application is critical it may be wise to consult the manufacturer's data sheets for exact specifications on a particular device. Manufacturing processes also affect drift characteristics so similar capacitors from different manufacturers, using the same dielectric material, while close, will display predictably different drift characteristics.

Hope this is of some help.

Regards,
Bill Sorsby, N5BU

1176. Re: Wanted Schematics for TEKTRONIX 2215A SCOPE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4fsbdt$3pt@maureen.teleport.com>
Source record: 107302

In article <199602120708.RAA19116@dyson.brisnet.org.au>,
peterw@dyson.BRisnet.ORG.AU (Peter L. Williamson) wrote:
>Can any reader help me with some schematics/scope trace for the TEK 2215A.
>Mine has just developed a fault where it will not trigger on CH. 2 and I
am
>keen to repair it (AGAIN! SIGH! I think I could take this one apart in my
>sleep----)
>Tnx Peter VK4AWP.

Manuals for most older Tektronix scopes can be obtained from

Deane Kidd, W7TYR
2727 SW Ladd Hill Road
Sherwood, OR 29140 USA
(+1) 503-625-7363

You might still be able to get a manual for the 2215A from Tektronix.

Roy Lewallen, W7EL

1177. Need GE LBI-3615 Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: Jim Brown <starman@conterra.com>
Message-ID: <31229AAE.259A@conterra.com>
Source record: 107303

I am looking for the manuals for a GE LBI-3615 GE Power Amp Model 4EF5A1 Rev. B. If anyone has this manual I would be happy to pay for the duplication and cost of mailing.

Thanks es 73 de WM3O <Jim>

1178. Help with Icom u2sat HT - Batt. packs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: bcdlr@midwest.net
Message-ID: <4fsmdf$gjk@sparky.midwest.net>
Source record: 107304

Help me! Please!

I have an Icom u2sat HT. It uses a battery pack smaller, but similar to the Icom 2sat, HTX202, etc.... The packs themselves are no longer available. Anybody have any ideas of any other packs that might work or connectors, etc. I wouldn't care if I had to put batteries in them. Any ideas on what the regulator circuit would look like? I really like this little HT, I bought it "new" at a hamfest last summer and other than finding batteries for it, it has been a great HT, my first 2 meter rig!
TNX, Dan Reynolds, KB9JLO, bcdlr@midwest.net
Peace+
Dan Reynolds, bcdlr@midwest.net, KB9JLO

1179. DS-1A (DC-DC converter for Kenwood) question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <4ft09j$ias@crchh327.rich.bnr.ca>
Source record: 107305
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

I have a Kenwood TS-820S that I would like to run off battery in
cases of emergency. And as a (good ?) homebrew project, I thought
I could emulate the offering from the manufacturer. Problem is,
the information in the back of the service manual is sufficently
ambigeous enough that I have a few questions.

Is the transformer shown part of the DC-DC converter kit, or is
it the one already in the radio, with the barrier strip that already
has the matching color coded wires ?

The drawing shows the same connector as used for AC input, but wired
for DC, then another "power connector" thet does not appear to match
the previous which interrconnects with the barrier strip. How exactly
is the power (DC) connected into the system ?

Any other hints/explainations on this 'project' would be welcomed.

Thanks..

--
==========

Ken M. Edwards, PE Nortel, Research Triangle Park, NC
(919) 905-4769 email: cnc23a@bnr.ca

All opinions are my own and do not necessarily reflect the views of
my employer or co-workers, family, friends, congress, or president.

1180. Need Info on 2Gig band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: Chris Tabor <tabor@slic.com>
Message-ID: <31221067.BC3@slic.com>
Source record: 107306

Hello,
I am trying to find a 2 gig amp, or some info.
Can anyone help me?
--
-C
--H
---R
----I
-----S

1181. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: Gary Davidson <reporter@sparc1.castles.com>
Message-ID: <4ft621$vj@miwok.nbn.com>
Source record: 107307

I just bought an Amp Supply LK500 linear amp, running a pair of 3-500 tubes, and immediately blew a leg out of the HV rectifier stack. These diodes are listed as 1N5408 diodes, and there are 4 diodes in each leg of a full wave bridge. I have no idea what the ratings are on these diodes, and would appreciate info from someone who might have a reference manual. I amd also unaware of availability of these diodes at this point in time, and haven't figured out whether to replace the bad string, assuming I can locate exact replacements, or just go ahead and replace the entire string with some diodes having higher ratings than what it originally came with. All help and comments appreciated!

&3, Gary, KJ6Q.

1182. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: willmore@whelk.cig.mot.com
Message-ID: <willmore.824330070@whelk>
Source record: 107308

jlkolb@sd.cts.com (John Kolb) writes:

>David A Willmore (willmore@whelk.cig.mot.com) wrote:
>: It seems that every time I look for information on PLL loop filter design,
>: they focus on simple implementation of the loop filter. Is it because
>: simple one or two pole filters are the ideal filters for this use or
>: is there some other design constraint involved? The filter only has to
>: work in the audio range--from my understanding. Would a brick wall, low
>: pass filter of a high order be a better solution? What if you could widen
>: the passband while tuning and narrow it down once you have aquired lock?

>Just offhand, I would say the varying phase shifts as you moved
>across a complex filter would be very unsetting to loop dynamics.

Supposedly, the filters come in an eliptic variety which, I would think,
would not suffer from this much.

>Looking at someone's synthesizer IC the other day (National?) that
>brings out a pin called QuickLock which can be used to throw a
>shunting resistor in a simple lead/lag network to speed up the
>lock time.

Hmmm, I'll have to give them a look. This design is for personal use,
BTW. I don't do these things for a career. :)

>: Just a few thoughts and questions. BTW, anyone have a good VCO design for
>: 60.7 to 64.7 MHz? :)

>Years ago now, I had very good luck using a capacitor at the end
>of an ~ 1/4 wavelength of coax to replace the inductor in a VCO,
>to get higher Q and thus lower phase noise. Use minature coax, and
>just roll it up out of the way.

Hmmm, this would be even more practical as I'm thinking of going to a
mutiplied VCO which would get divided down to make the LO.

>John Kolb KK6IL jlkolb@cts.com

Thanks for the ideas.

Cheers,
David

1183. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: willmore@whelk.cig.mot.com
Message-ID: <willmore.824329573@whelk>
Source record: 107309

David Nulton <dnult@axiom.net> writes:

>I'm not a PLL expert but have worked with some simple stuff at
>1Khz. I believe the design of the filter will affect the capture
>and lock range of the PLL. For example, too sharp a filter could
>easily lose lock (If I understand it right). However I think the
>gear shifting filter idea might work just dandy. Although
>depending on your application, there usually isn't much need for a
>really whopper filter in the PLL.

>Just my thoughts

>73s
>de KI5XW

Thanks. My two concerns with this design are fast lock times with variable
step sizes and low phase noise once lock has been acheived.

Cheers,
David

1184. FS PTS 160, 100KHz to 160MHz 1Hz resolution DAS synthesizer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <4ftqqt$fku@firebrick.mindspring.com>
Source record: 107310
Cross-posted to: rec.radio.swap,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I have a mint PTS160 frequency Synthesizer by Programmed Test Sources.
It generates carriers from 100 KHz to 160 MHz in 1 Hz steps. The unit uses
Direct Analog Synthesis and can switch frequencies in extremely short times.
Power is adjustable from the front panel up to around 15dBm. Unit is calibrated
and within 1Hz of WWV. This unit sells new from PTS for over $7000. Asking
$1200. OBO. Unit has TCXO, GPIB, Rack mount and other options.

AC4OP
Pieter
Wave@mindspring.com

1185. Re: (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: Jeff DePolo WN3A <depolo@intermediainc.com>
Message-ID: <312238AB.2477@intermediainc.com>
Source record: 107311

Gary,

Tried to send you email but your host says you don't exist.

The 1N5408 is rated for 1000V PIV, 3.0A, 125A surge, 1.0 Vf. Digi-Key has them at 10 for $3.36.

I'd replace the whole string.

I don't think you'll find a beefier diode in that same package (DO-201AD). If you have enough room to work and can handle a slightly larger package, something like a Motorola MR760 which is rated for 6A might be a decent upgrade. I don't think I've seen diodes in small packages like you will need that have PIV's larger than 1000V, but they're probably out there somewhere.

I've seen a blowout as you describe because of RF-related problems elsewhere causing a lot of radiation inside the cabinet of the amplifier. Just a quick blue flash and adios power supply. A friend of mine had the same thing happen with a single 3-500 amp sold by AEA (OEM Vectronics).

--- Jeff
-=-=-=

1186. PostScript to Gerber

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <DMs9su.F8G@freenet.carleton.ca>
Source record: 107312

Is there any shareware utility that will convert a ppostscript file
to Gerber format (for cad/cam), or a shareware cad app that will
read a postscript and output in Gerber?

thanks

1187. test msg

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: vk2esl@vk2djg.une.EDU.AU
Message-ID: <5832@vk2esl.ampr.org>
Source record: 107313

just seeing if this gets to the digest ok.

1188. Ferric Chloride Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: "Steven A. Bailey" <bailey@skipjack.net>
Message-ID: <4freng$q7c@shore4.intercom.net>
Source record: 107314

I am wondering the ramifications of dumping some
dilluted ferric chloride out in my yard (used for
PCB etching). Seems this is a very weak acid...even
when at full strength. Any ideas are welcome.

Steve

1189. Re: Need VCO, 1-2 gHz - circuit or off-shelf

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: Ken Harvey <ken.harvey@dsto.defence.gov.au>
Message-ID: <31218BC3.4077@dsto.defence.gov.au>
Source record: 107315
Cross-posted to: aus.electronics,aus.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.components

Synergy Microwave Corp also makes them. Talk to Electronic Development Sales. Phone 02-418-6999 and ask for Earle Goodwin or Henry Loh. Small quantities OK. About $AU80 or thereabouts. Model VCO-x-1000 or VFC-x-1000 where x=P or S. Both 1-2GHz.
P=Pin out, S=Surface mount. Both models have the same elect. specs. Mech details vary slightly.
Ken Harvey

1190. Need Globar Resistor Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-14 00:00:00 UTC
From: jackg@xetron.com
Message-ID: <DMs1L1.9EH@xetron.com>
Source record: 107316

Hi,

I am looking for a supplier or an address/phone number for
Globar resistors.

Thanks, Jack, WB8BFS

1191. Re: PostScript to Gerber

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb15.175043.13228@ke4zv.atl.ga.us>
Source record: 107229

In article <DMs9su.F8G@freenet.carleton.ca> ae517@FreeNet.Carleton.CA (Russ Renaud) writes:
>
>Is there any shareware utility that will convert a ppostscript file
>to Gerber format (for cad/cam), or a shareware cad app that will
>read a postscript and output in Gerber?

The folks in rec.crafts.metalworking are facing this same problem.
I believe you'll find that unless the Postscript file uses only
the basic line drawing primitives, information is lost and you won't
be able to reconstruct a CAD file from the Postscript file.

Postscript is a printer language, IE it describes a bitmap in
terms of a set of descriptive primitives, and isn't generally
a good geometric object language suitable for CAD.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1192. Shunt peaking coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: workshop@pcm.co.za
Message-ID: <4g012e$1l0_002@pcm.co.za>
Source record: 107230

Is there anyone out there who can give me design formulas/rules
for calculating the value of shunt peaking coils.
I have a design for an aerial amp,but the coil winding instructions
have been left out.The only info it has is that the coil is 2.5
turns.No wire gauge,diameter or length!(FAT HELP)
The design comes from the TV DXers handbook published around 1988.
Maybe someone out there has come across or built the circuit
and could help out.
Thanks
Cheers
Robin

1193. Homebrew GPS RX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: Dietrich Morgenstern <76050.1341@CompuServe.com>
Message-ID: <31239D93.7130@CompuServe.com>
Source record: 107231

About 2 years ago there was a very detailed description of a
homebuilt GPS Rx in the german journal UKW-Berichte.
It went over several issues and if I remember correctly there were
detailed schematics.
The author was a very wellknown Yougoslawian amateur.
The article was in the german language.
Hope this helps

Dietrich DJ1VA

NB.: The rx was also suitable for GLONASS.

1194. ANCIENT W.M Welch Oscilliscope, Info needed!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: rstapestry@aol.com
Message-ID: <4g0kp8$8q4@newsbf02.news.aol.com>
Source record: 107232

ANCIENT W.M Welch Oscilliscope, Info needed!!!

Hello.

I've been posting q's about GPS, haven't found too much info.

HOWEVER!!!
I recently acquired a Cathode Ray Oscilliscope from my Physics teacher,
with a little coaxing, and I have no clue how to make it run again. It has
vacuum tubes and a huge CRT projector. It's a work of art, however it
looks like it was soldered together by a two year old.

Technical information.

It's a W.M. Welch CROscilliscope, 115 volts, 50-60 cycles, 35 watts.
CRT projector is model... Phillips JAN-CNY-5cpl
Vacuum tubes:
RCA 2x2-879
RCA 6x4
CBS 6CG7
Sylvania 6AU6 (two of these)

There are two huge capacitors
Solar CP70E 1FH504K
1500WVDC .5 mFd

Asst. large resistors.

Ancient transformers.

My best estimates are that it's 40's vintage.
I want to get this thing to work.
If anyone knows of technical data, and replacement parts for one of these,
Please let me know.

Thanx, Dave.

1195. GIANT E.F. JOHNSON VARIABLE CAPACITOR FOR SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: Bill <debral@falcon.cc.ukans.edu>
Message-ID: <1996Feb15.211516.114128@kuhub.cc.ukans.edu>
Source record: 107233

AIR-VARIABLE TRANSMITTING CAPACITOR

::

Manufacturer: E.F. Johnson Co.
Waseca, Minn.
U.S.A.

PART NO: 150DD70

CAP uuf * 150 X 2

VOLTS: * 7000

AIR GAP: * .175

SIZE: approx 14 inch X 4.5 inch

COMMENTS: * Ratings apply to each section of this multiple
section condenser.

Includes insulated (steatite) shaft coupling.

::

Would anyone care to make an offer on this beauty?

73s

Bill
AA4FM/0

1196. Re: Printer generated transparency problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: ecloud@goodguy
Message-ID: <4g08g5$ls5@news1.goodnet.com>
Source record: 107234

ian white (100743.1026@compuserve.com) wrote:
: JLAN98A@prodigy.com (Kenneth Burtchaell) wrote:

: >I am experiecing difficulty in getting a good solid blackening in the
: >solid trace areas of PCB layout transparencies on my Okidata OL400
: >printer.It has been suggested to me that this might be a electro static
: >induced problem . Anybody have any good ideas?
: >
: > 73 Ken W6GHV
: I have been trying to do the same with my KODAK lazer printer.
: Generally it is black enough now I have set it darker from the slider
: bar in printer setup options in windows 3.1. although the acetate film

My Brother HL-8V (HPIII compatible, uses the Canon SX engine - paper
tray in front, output on the top) has a knob inside to adjust "darkness"
as well, and it really makes quite a difference (in output, I
haven't tried making PC boards yet). If your printer looks similar to an
HPIII it probably has this control as well. Open the printer as if
you were going to change the toner cartridge, and the knob is on the
front left corner of the open space.

: I am using goes a bit crinckly through the heated rollers.
: Have you any suggestions as to software for making PCB layouts?

Corel Draw works nicely if you are doing it by hand, or if you have an
old pattern not suitable form directly photocopying onto acetate,
you can scan it, import it into Corel, and then draw the traces over top
(trace the scanned version). When you're done tracing it, remove the
bitmap from the background and you will have nice cleaned up artwork.
The nice thing about Corel (as opposed to some generic CAD program) is
the ease of doing curved lines, and making closed shapes which you can
fill solid black. Alternatively, you could take the scanned version into
Photoshop, tweak the brightness and contrast to get rid of smudges and
inconsistency, use the line tool, paint brushes, etc. to clean up edges
and light areas, and print that, but Photoshop would be one of the worst
choices for creating a layout from scratch.

If you're going to design a circuit, there are some schematic capture
and PC board layout packages. I got Chipmunk and some other package,
both for Linux, and they appear quite nice and easy to work with but
I haven't done any real work with them yet. My conclusion after designing
one board with a really ancient version of PCAD that I picked up at a
hamfest is that doing a schematic first isn't worthwhile unless you need
it for documentation, or can afford one of the nice ($1000+) design programs
that has a worthwhile router. PCAD did such a lousy job routing that I
ended up doing layout from scratch anyway, and mentally verifying the operation

of the circuit based on the pc board layout rather than the schematic.

--
_______ KB7PWD @ KC7Y.AZ.US.NOAM ecloud@goodnet.com
(_ | |_) Shawn T. Rutledge on the web: http://www.goodnet.com/~ecloud
__) | | ____
* PIC * alternative energy * packet * VRML * Star Trek * Khoros * X window *

1197. Re: Ferric Chloride Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4fvse1$jme@hpcvsnz.cv.hp.com>
Source record: 107235

John Heck (jkh@meaddata.com) wrote:
: In article q7c@shore4.intercom.net, "Steven A. Bailey" <bailey@skipjack.net> writes:
: >I am wondering the ramifications of dumping some
: >dilluted ferric chloride out in my yard (used for
: >PCB etching). Seems this is a very weak acid...even
: >when at full strength. Any ideas are welcome.

: I believe that if you dilute it well you may spray it on your yard and it will do a
: nice job of greening it up(in warm weather, of course). Ferric cloride is acidic
: but not a strongly so as, say hydrogen cloride(muriatic acid), since iron does not
: hold on to its outer electrons as well(being large) as hydrogen, and so ionizes much
: more easily. Iron plays an important role in the manufacture of clorophyll and this,
: of course makes the grass green.

Two comments: if it's spent, after etching copper-clad board, the copper sure won't help the plant life much. And if it's not used, the Fe+3 is a fairly strong oxidant (etches copper after all), and may not be as good for plants as Fe+2.

Second, you can't dissolve very much ferric ion in neutral water! The solubility product of ferric hydroxide is something like 10^-36, so if you want one molar ferric ion, plan on getting the hydroxide down to about 10^-12, which means the hydrogen ion must be 10^-2, or pH=2 or less. In other words, to get ferric chloride to dissolve appreciably in water, you must make the water acidic. Otherwise you get ferric hydroxide precipitate, brown "glop". In fact, by the act of precipitating, it leaves behind hydrogen ion, so whether you add acid to get everything to dissolve, or just remove hydroxide by letting Fe(OH)3 precipitate, you've made hydrochloric acid solution. It's not terribly strong, but do treat it with some respect.

--
Cheers,
Tom
tomb@lsid.hp.com

1198. 'Memory keyer - Public domain code'

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: ed@fore.com
Message-ID: <4fvojr$1fp@baleen.fore.com>
Source record: 107236

Does anybody know of a microcontroller based keyer with public domain
software? I have FTP'd, and searched, and archied, and webbed, and havent
found one yet. Perhaps it doesent exist.

I recall a while back there were a lot of posts complaining about a cpu
Super Keyer construction article published recently in QST, not having source
code. From what I understand, the only way to build this keyer was with his
preprogrammed $50 chip.

Well... I pose an idea...

Pool a list of desired features, get a group of geeks together via internet,
and group write and post the source code, and design and build a public
domain keyer... and then make a group article for QST.

Sound plausable, or am I asking for a democracy in the land of chaos?

Perhaps we could have code for several types of Microcontrollers.

My personal MPU of choice is the motorola 68hc11, why is that you ask?
Low cost - under $20 bucks each. (I already have some)
EEPROM 512 bytes, ram 256 bytes, on board serial and parallel and A>D ports.
It can be programmed via its own serial port WITHOUT A SPECIAL PROGRAMMER!
The motorola compiler software is available via bbs and internet to run on a PC.
I like many others learned 6800 on a heathkit trainer 10+ years ago and am
quite comfortable with its instruction set.
The design could be easily be ported to 6800, 68x711,811 or whatever.
Perhaps there is some guru who could port the final design over to RISC for PIC.

Features/functions...

Iambic operation, single or dual paddle.
Single striaght key operation. (How? input requested)
Adjustable weight, speed and spacing. (Pots to analog input channels? input
requested)
Multiple memorys - push button selection.
(several discrete buttons, or up/down buttons and status leds? input requested)
TX relay control for older tube type rigs that shorten first character while
the tx/rx relay closes. Prevents relay from opening until EOM or SK is sent.
Perhaps an SK button?

Now is your chance to have some input into a new keyer design, one that you
can really build and program yourself!

Send your thoughts to Ed@fore.com

73

Ed N3SDO

1199. Re: File formats to download

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: ritk@aol.com
Message-ID: <31229c3a.4119415@news.gnn.com>
Source record: 107317
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

richardh@iinet.net.au (Richard Hosking) wrote:
>G,day from Oz
>
>I am setiing up a web page with articles on various topics in RF and
>digital design. Current interests are DDS systems, SSB phasing
>receivers and the PIC
>
>Any ideas re
>
>The best document format to download files?
>
>Any sites with info on these topics?
>
>Richard Hosking VK6BRO
>
>VK6BRO
>51 Sulman Rd
>Wembley Downs
>WA 6019
>
>Any sites with info on these topics?

Recently, I was so impressed with Adobe's Acrobat PDF (Portable Document File) format, that I bought 300 shares of their stock. I also purchased their $125 Adobe Exchange for win that produces .pdf's from any app that can print to a windows printer. Portable means all platforms; Windows, Macs, Unix.

Adobe has a free download of Acroread, which is a subset of the Exchange SW that allows reading and printing *.pdf's.

I discovered Acrobat by visiting the Maxim Integrated Products site (search on maxim). They have a link to the free reader download. I downloaded a 10 page Maxim data sheet in 45 seconds at 14.4 K. I was astounded by the quality and detail of the line art and the tiny fonts. It took 4 minutes to print on an old HP laser III without Postscript capability. May be much faster with Postscript printers.

I have used Exchange on a 255K WordPerfect document containing several Acad generated line dwgs, to produce a 110K PDF that prints with no perceptible degradation.

I see now that Motorola is also using Acrobat PDF, and a CD sampler from Adobe implies that the Dept of Defense is standardizing on PDF and using the Adobe Capture product to archive all DOD legacy paper

documents.

The CD sampler contains the complete works of Shakespeare, a complete issue of the London Herald, several informative videos and lots more. Adobe sent it to me free and that is where I discovered the $125 special offer for Exchange.

My Adobe stock is doing very well.
Rit Keiter

1200. Re: FT-8500 Need Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: Mike Obermeier <ifindem@mail.calypso.com>
Message-ID: <4fueef$hke@news.htp.com>
Source record: 107318
Cross-posted to:
rec.radio.scanner,alt.radio.scanner,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

The mod is easy. This will give you 137-174mhz and 410-470mhz Tx/Rx.

1. disconnect power and antenna (like, you would'nt of done it already.)
2. open up the case by removing the screws and gently removing the cover and unpluging the speaker.
3. locate and CUT the GREEN WIRE on the CONTROL BOARD (the vertical board behind the control panel.
4. reassemble the radio.
5. RESET THE MICROPROCESSOR (so much for the memory!)

(press and hold [D/M] & [REV] & [ENT] & turn the power on (got enough fingers?).

(turn off the radio).

(press and hold [SCAN] & [HOME] & turn on the radio (extended RX mod).

Tha, Tha, Tha, That's All Folks!

1201. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_824412061@rtfm.mit.edu>
Source record: 107319
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb, rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet mailing list counterparts and complements. It is intended to serve as a guide for the new reader on what to find where. Questions and comments may be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October 1994 to add the discussion of non-Usenet mailing lists and streamline most of the history discussion, and to change the moderator information for rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions were held on the mailing list, and sent to the mailboxes of those who had signed up for it. When the Usenet software was created, and net news as we now know it was developed, a newsgroup was created for hams: net.ham-radio. The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became progressively higher. First one by one, and then as part of two reorganizations, what was once one group became many. In the process, developments elsewhere on the net were reflected in the groups as they were created, most notably the change to place all of the ham radio groups in one hierarchy.

The collection of newsgroups continues to grow as more people join the net, and as more topics of discussion gain volume, I expect to see more groups be created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the notable exception being rec.radio.swap. There are also a few mailing lists that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them, and not to the groups that aren't. The whole idea of having different

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

1202. 1296 MHz VCO with comb filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4fvj3b$k2m@tempo.univ-lyon1.fr>
Source record: 107320

Hi !
Since I'm planning a 23 cm repeater, and I am not in the USA (!)
I was thinking about buiding it on my own.
And using an atomic reference (of WWW kind) to lock it.
Since I want to be able to choose the input and output frequencies,
I need something tuneable. I thought about comb filter with three
digits, the middle one being tuned by a varicap (or PIN diode).
Does anybody have any experience in this field ?
Should I use a YIG instead ?
Another form of filter ?
What noise can I expect from such a system ?

I thank you in advance for any suggestion

Vince, F5RCS

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

1203. Ignition noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: paulc@esslink.com
Message-ID: <4g0j7q$3nu@news.esslink.com>
Source record: 107321
Cross-posted to: sci.electronics.design,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Hello all

Has anyone ever done any work to quiet down the ignition system (spark impulse noise) in a gasoline powered vehicle?? I wonder if one could use large ferrite beads to choke off the spectrum of the spark from radiating off the wire at the frequencies of interest. 1 mhz and above? I have done a lot of grounding , and am using resistor plugs and wires.. Are there any shielded wire kits out there?

PaulC
"Noisy in Connecticut"

1204. Re: NPO vs. COG Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1996Feb15.153931.6700@schbbs.mot.com>
Source record: 107322

>Since no one else has come forward, I'll offer my two cents worth. NPO
>stands for Negative-Positive-Zero. COG is a type of ceramic dielectric, much
>as Z5U and X7R are. COG is considered to be an NPO, whereas Z5U and X7R
>capacitors vary radically with temperature.

Last year I tried using COG capacitors in a VFO design. My local supplier had commented that COG is the same as NPO. In my case, I found that the resulting drift was *much* worse than the assorted NPO capacitors I had been using.

Of course, your mileage may vary....

- Dan Tayloe, WB0NVB, Phoenix, AZ

1205. More NP0 vs. C0G Capacitors Thoughts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1996Feb15.154845.7199@schbbs.mot.com>
Source record: 107323

>Since no one else has come forward, I'll offer my two cents worth. NPO
>stands for Negative-Positive-Zero. COG is a type of ceramic dielectric, much
>as Z5U and X7R are. COG is considered to be an NPO, whereas Z5U and X7R
>capacitors vary radically with temperature.

I think that some of the negative experiences that I have had with drift
and COG capacitors could be due in part to their small size (I have a very
difficult time even reading the markings on the tiny little things). The
NPOs that I have dealt with are quite large in comparison to the *very* small
size of the NPOs.

With such a small size, any RF heating of the part will cause a significantly
higher temperature rise in a very small part than a much larger one. This
could have accounted for the effect I was seeing.

- Dan Tayloe, WB0NVB, Phoenix, AZ

1206. Re: Ferric Chloride Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.824410812.11027.jwicklun@mycroftxxx.halcyon.com>
Source record: 107324

> >I am wondering the ramifications of dumping some
> >dilluted ferric chloride out in my yard (used for
> >PCB etching). Seems this is a very weak acid...even
> >when at full strength. Any ideas are welcome.
> >
> >Steve
> >
>
> I believe that if you dilute it well you may spray it on your yard
and it will do a
> nice job of greening it up(in warm weather, of course). Ferric
cloride is acidic
> but not a strongly so as, say hydrogen cloride(muriatic acid), since
iron does not
> hold on to its outer electrons as well(being large) as hydrogen, and
so ionizes much
> more easily. Iron plays an important role in the manufacture of
clorophyll and this,
> of course makes the grass green.
>
>
What about all that dissolved Copper?? I believe that the EPA
considers FeCl a hazardous material.

73 de KI7RH

p.s. that's how we got rid of it in the old days (before we knew any
better).

1207. Re: Ferric Chloride Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4fvp5a$3t84@info4.rus.uni-stuttgart.de>
Source record: 107325

>I am wondering the ramifications of dumping some
>dilluted ferric chloride out in my yard (used for
>PCB etching). Seems this is a very weak acid...even
>when at full strength. Any ideas are welcome.

There are two catches: Although copper salts are relatively non-toxic
for humans, they are highly toxic for bacteria etc. and therefore
enviromentally harmfull. Also the ferric chloride is very aggressive,
during hydrolysis it releases substantial amounts of hydrochloric acid.

You have been warned. 73, Moritz DL5UH

1208. Re: ? transverter 10m-70cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb15.174219.13141@ke4zv.atl.ga.us>
Source record: 107326

In article <4fsn2a$93b@rznews.rrze.uni-erlangen.de>
hsreiser@cip.informatik.uni-erlangen.de (Hans Reiser (CIP 95)) writes:
>I intend to build a transverter 10m<->70cm (maybe also 10m-23cm), and
>i'm looking for any information about this. Any hints how to do
>so would be appreciated, as well as sources for schematics, literatur,
>etc, and personal experiences with this.
>One additional intended use of my project is in digital communication,
>and therefor I'm especially interested in the capability of
>full-duplex operation (simultanious TX and RX), and fast (electronic)
>TX/RX switching. And of course I'm interested also in
>low-budget-designs... :-)

Get a copy of the RSGB VHF DX book. There are a number of good
transverter designs in there as well as good material on designing
your own.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1209. PLL questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: Christopher Comeaux <impulse@oak.liii.com>
Message-ID: <Pine.SUN.3.91.960216110707.8650B-100000@oak.liii.com>
Source record: 107237

What is the lowest typical S/N ratio which can be handled by a
PLL as a FM demodulator?

Do PLL's reject signals which are out of the desired frequency
range? Or must a filter precede the PLL to select only wanted signals?

If they have a lock on a signal will they be likely to jump to
another signal if it is within the desired band? Assume for example
that there are two unmodulated carriers at 262 and 263 KHz coming into
the PLL; will the PLL prefer the signal it's locked on, or tend to
capture the other?

cc/N2QMU

1210. Re: Help design coil for coupling 2 amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4g20kf$qgq@aldebaran.sct.fr>
Source record: 107238
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Hi everybody

Thanks a lot for documented answers.

In order I learn something, is there a pratical book a pointer on the
net where I can get more informations about Wilkinson splitter ?

Regards

Have
a nice opworld@worldnet.fr
Day

1211. Re: Ignition noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: Jim Cummings <jcumming@clark.dgim.doc.ca>
Message-ID: <4g230k$4fc@crc-news.doc.ca>
Source record: 107239
Cross-posted to: sci.electronics.design,rec.radio.amateur.misc,rec.radio.amateur.homebrew

paulc@esslink.com (Paul A. Cianciolo) wrote:
>Hello all
>
>Has anyone ever done any work to quiet down the ignition system (spark
>impulse noise) in a gasoline powered vehicle?? I wonder if one could
>use large ferrite beads to choke off the spectrum of the spark from
>radiating off the wire at the frequencies of interest. 1 mhz and
>above? I have done a lot of grounding , and am using resistor plugs
>and wires.. Are there any shielded wire kits out there?
>
>PaulC
>"Noisy in Connecticut"
>
>

Hello Paul:

I have had good success with passing the ignition cables through some Snap-On Chokes. However, you will have to use a large number of them because, if your vehicle is like my Ford Ranger, there is not enough slack in the ignition cables to loop them through (I really wouldn't care to try it anyways).

I wish you luck

73 and live better digitally
Jim, VE3XJ

1212. Information on equipment sought by new Tech

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: tomz@premier1.net
Message-ID: <DMuJuB.GLH@data-io.com>
Source record: 107240
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Hi,
I am going to be taking my Tech tests on Saturday (2/17) and am now starting to look in to what type of radios to get. I plan to put a 2M Mobile in my truck and get a more substantial base for home.

For home I'm looking into Base Multiband / Multimode Transceivers and trying to decide what will be my best bet. I was thinking of one that would cover at least 2M and perhaps 70cm. I am interested in working into Satellite and EME as well as FM and perhaps some local CW, 12V operation would be a plus but not a major requirement. I do plan on upgrading to at least General with in the next year and expanding also into some HF as well. So I would want to take that into consideration as well. possibly using Transverters get to the higher freqs for satellite and EME and going with a more basic UHF/VHF base unit.

For the mobile unit I was thinking of a rather simple 2M unit for repeater and simplex FM. I live in a rather remote area in the western foothills of the Cascades so I think one of the higher output power units would be in order. I was considering picking up one of the new Radio Shack units. As far as I can tell it has most everything I am looking for at a reasonable price. From the cross talk I have seen on the net and the write up in CQ (VHF) it seems to be a good choice.

I would like to take advantage of the wealth of experience of those out here on the net and get some input from you as to what you think. Suggestions on equipment to get or avoid as well as things to look for or useless features to not even consider. For me price, value and reliability are important, I have a modest but hopefully adequate amount set aside for starting up and want to use it wisely. The Base unit I'll be looking for used at up coming Ham fests so any information about current or older equipment would be helpful. I was thinking of picking up the Mobil new (if it is in or around the same price range as the Radio Shack unit) but am vary open to suggestions. I would also welcome comment on other accessory gear that you feel would be useful as well as thoughts on band selection (pros and cons of the diffrent amature bands) or what ever info. you would like to pass on to a newbie like myself. I know there are lots of books and other sources around and would not mind pointers to the better source like that, but I am primarily looking for personal insights and experience.

Thanks
TZ

Reply here or by e-mail to tomz@premier1.net

1213. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.59.0018A582@azstarnet.com>
Source record: 107241

In article <4g2jqm$huc@solaris.cc.vt.edu> Mars@dum.edu writes:
>From: Mars@dum.edu
>Subject: WTB 6,000 watt linear amp 75 meters
>Date: 16 Feb 1996 18:53:10 GMT

> Please forward info.

A Henry Radio 8K might come close.
Happy QRPing.

1214. Need Handheld Doppler Ant Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: crawford@uniserve.com
Message-ID: <4g0inc$dsj@atlas.uniserve.com>
Source record: 107242

Hello:

It never fails, you keep a magazine for years and one day decide you should toss it out. Within seconds of the garbage man taking it away, you NEED an article from it!!!

I'm looking for an article on building a handheld D.F. antenna with a small doppler circuit on the handle. This particular one looked like a bow tie antenna on a short handle with a 9vdc battery and PCB doppler circuit attached. I can't remeber which mag it was in, but it was a few years old.

If you have the article or a similar circuit, can you PLEASE contact me and I'll pay for costs to get a copy.

If you wish, you could fax it to me, call my voice phone number and I'll arrange for the fax to be collect.

Steve Crawford, VE7IIF
Ph: (604) 826-6295
Fax: (604) 826-4930

PGP Fingerprint: 31 CD 7E DA 1B E3 8A 14 E2 9B 0D D8 C5 27 23 38
Finger: crawford@uniserve.com for PGP Public Key

Steve Crawford
PGP Fingerprint: 31 CD 7E DA 1B E3 8A 14 E2 9B 0D D8 C5 27 23 38
Finger: crawford@uniserve.com for PGP Public Key

1215. Re: Help design coil for coupling 2 amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: nangwa@aol.com
Message-ID: <4g2ao4$qlu@newsbf02.news.aol.com>
Source record: 107243

In article <4g20kf$qgq@aldebaran.sct.fr>, opworld@worldnet.fr writes:

>
> Hi everybody
>
>Thanks a lot for documented answers.
>
>In order I learn something, is there a pratical book a pointer on the
>net where I can get more informations about Wilkinson splitter ?
>
>Regards
>
>
>Have
>a nice opworld@worldnet.fr
>Day
>
>

You might want to get the book "Radio Frequency Transistors, Principles and Practical Applications" by Norm Dye and Helge Granberg of Motorola. Chapter 11, Power Splitting And Combining, may prove useful. The book is published by Butterworth-Heineman, 80 Montvale Avenue, Stoneham MA USA. Closer to home, you might try Linacre House, Jordan Hill, Oxford OX2 8DP, United Kingdom. The ISBN number is 0-7506-9059-3. (Listed at $49.95 U.S.)

Tom Donaly KA6RUH

1216. WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: Mars@dum.edu
Message-ID: <4g2jqm$huc@solaris.cc.vt.edu>
Source record: 107244

Please forward info.

1217. NEW HAMFEST !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: Tony <n3itn@fast.net>
Message-ID: <4g32r5$rso@nn.fast.net>
Source record: 107245

```
THE FIRST NORTHWEST NEW JERSEY HAMFEST
will be held on April 28 1996
at the Budd Lake Fire House
route 46 Budd Lake, NJ
for more info look to "THE HAM-STRING"
at http://www.users.fast.net/~n3itn/
```

1218. Safe mains voltage connector.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Feb16.155326.29752@ucl.ac.uk>
Source record: 107246

I have a need for a connector to handle 240 VAC @ 30 A. Nothing unusal you think. The problem is, that either side (plug or socket) of the connector may be live. Has that exhaused all possibilities, or does something exits that works safely ??????

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

1219. Information sought by new Tech

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: tomz@premier1.net
Message-ID: <4g2hgb$f06@premier1.premier1.net>
Source record: 107247
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap,alt.radio.amateur.club.clarc,rec.radio.amateur,rec.radio.amateur.digital.misc,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

Hi,
I am going to be taking my Tech tests on Saturday (2/17) and am now starting to look in to what type of radios to get. I plan to put a 2M Mobile in my truck and get a more substantial base for home.

For home I'm looking into Base Multiband / Multimode Transceivers and trying to decide what will be my best bet. I was thinking of one that would cover at least 2M and perhaps 70cm. I am interested in working into Satellite and EME as well as FM and perhaps some local CW, 12V operation would be a plus but not a major requirement. I do plan on upgrading to at least General with in the next year and expanding also into some HF as well. So I would want to take that into consideration as well. possibly using Transverters get to the higher freqs for satellite and EME and going with a more basic UHF/VHF base unit.

For the mobile unit I was thinking of a rather simple 2M unit for repeater and simplex FM. I live in a rather remote area in the western foothills of the Cascades so I think one of the higher output power units would be in order. I was considering picking up one of the new Radio Shack units. As far as I can tell it has most everything I am looking for at a reasonable price. >From the cross talk I have seen on the net and the write up in CQ (VHF) it seems to be a good choice.

I would like to take advantage of the wealth of experience of those out here on the net and get some input from you as to what you think. Suggestions on equipment to get or avoid as well as things to look for or useless features to not even consider. For me price, value and reliability are important, I have a modest but hopefully adequate amount set aside for starting up and want to use it wisely. The Base unit I'll be looking for used at up coming Ham fests so any information about current or older equipment would be helpful. I was thinking of picking up the Mobil new (if it is in or around the same price range as the Radio Shack unit) but am vary open to suggestions. I would also welcome comment on other accessory gear that you feel would be useful as well (for example band selection for Satellite and EME), or what ever info you would like to pass on to a newbie like myself. I know there are lots of books and other sources around and would not mind pointers to the better source like that, but I am primarily looking for personal insights and experience .

Reply here or by e-mail to tomz@premier1.net

Thanks
TZ

1220. Help:Low Power AM Broadcast Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4g3auc$aiv@newsbf02.news.aol.com>
Source record: 107248

Is anyone familiar with the low-power AM broadcast transmitter(s) used by Airports, DMV's real estate agents, or drive-in theatres to broadcast local site-specific information to car radios?

I know, for example, that some real estate outfit puts 'em in houses for sale, and you can hear the whole lowdown on the house by tuning in on your car radio. Some airports do the same thing to give local information on parking and rental cars.

Is some sort of special license required? Who makes the hardware? Is it expensive? Any guidance or direction would be appreciated. Please email, though, my newsreader is less than reliable.

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

1221. Re: Safe mains voltage connector.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4g2eov$9h0@hpcvsnz.cv.hp.com>
Source record: 107249

Dave Kirkby (davek@medphys.ucl.ac.uk) wrote:
: I have a need for a connector to handle 240 VAC @ 30 A. Nothing unusal you think. The
: problem is, that either side (plug or socket) of the connector may be live. Has that
: exhaused all possibilities, or does something exits that works safely ??????

I haven't had any experience with them, but what about the connectors that
are designed to be connected/disconnected underwater? I'd guess they may
do a good job protecting both the "plug" and the "socket" ends from
contact.

--
Cheers,
Tom
tomb@lsid.hp.com

1222. Re: 813 Xmtr for 160M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8518.546@acenet.com>
Source record: 107250

From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

I once had an ART-13 - got it free at a hamfest, built a 28V DC supply
for the autotune and put it on the air! Had a ball with it!

FAIR RADIO is listed in my file MEGALIST.TXT aka MEGALIST.ZIP
available as follows:

Updated copies downloadable from BBSes at:
(301) 681-7782, (301) 942-2218, (301) 299-3292, (301) 563-1306
(301) 417-6952, (202) 619-1494, (202) 208-7679

FTP site is at ftp.Lehigh.EDU. Login as anonymous, and use your
e-mail address as the password.
FTP: ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
WWW: http://www.nd.edu/~shideg/

megalist.txt
manuals.txt
dealers.txt
tubes.txt
xtals.txt
========

LD>> Fair Radio in Lima Ohio has the ART-13 available in surplus again for $150
LD>It covers 2-18 Mhz
LD>> (and is easily re-worked for 160 thru 10 meters) and uses an 813 modulated
LD>with a pair of
LD>> 811's. You might have more fun rebuilding the ART if you just want to run
LD>the 813's!

LD>Hey, I had one of these things many years ago. Watching the autotune
LD>operate is more fun than a barrel of monkeys. What's the address for
LD>Fair Radio?

LD>Larry **************************

The Evolution of Contemporary Thought:

----> McHale's Navy ->
-> Mikhail Gorbachev ->
----------> Al Gore ->
-------> Gore Vidal ->
----> Vidal Sassoon.....

A natural progression!

1223. Re: PostScript to Gerber

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <stefans.824504283@bauv111>
Source record: 107251

gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>In article <DMs9su.F8G@freenet.carleton.ca> ae517@FreeNet.Carleton.CA (Russ Renaud)
writes:
>>
>>Is there any shareware utility that will convert a ppostscript file
>>to Gerber format (for cad/cam), or a shareware cad app that will
>>read a postscript and output in Gerber?

>The folks in rec.crafts.metalworking are facing this same problem.
>I believe you'll find that unless the Postscript file uses only
>the basic line drawing primitives, information is lost and you won't
>be able to reconstruct a CAD file from the Postscript file.

>Postscript is a printer language, IE it describes a bitmap in
>terms of a set of descriptive primitives, and isn't generally
>a good geometric object language suitable for CAD.

Exactly speaking, PostScript is a programing language having a lot
of language elements suitable for various tasks, but especially
for graphics. There are language elements for bitmaps as well as
for vectors, circles of fonts. Have a look on the PostScript FAQ.

73,
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

1224. Repeater For Sale UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: Ken Yu <ak165@lafn.org>
Message-ID: <3123F821.44AB@lafn.org>
Source record: 107252

>This repeater is modified from 100 watts Motorola Micor mobile radio
>It have internal Volume,SQL control, one channel element, RX/TX antenna
>port and interface cable with B+ B-,PTT,COS,audio/in,audio/out. All
>repeater will tested and pre-tune to 442.000/in 447.000/out.(x,tal not
>include)I will provide x'tal vendor for your reference. Asking $225
>I pay shipping anywhere US. Please contact me via e-mail or call
>1-181-288-9728 **john or ken**

1225. Computerized Vacuum Tube List

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-16 00:00:00 UTC
From: jami1@ix.netcom.com
Message-ID: <4g2igv$mv2@reader2.ix.netcom.com>
Source record: 107253

I am trying to determine if a CD-ROM or Floppy Disk exists listing all
Vacuum Tubes. It would be preferable if the program had a database of
individual tube specifications but a simple listing would be
satisfactory. Any help will be appreciated.
Frank 'Jamie' Jamison - W5YSM - Email: jami1@ix.netcom.com

1226. Re: Ignition noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: "Gary P. Fiber" <gfiber@halcyon.com>
Message-ID: <312615FA.523@halcyon.com>
Source record: 107254
Cross-posted to: sci.electronics.design,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Paul A. Cianciolo wrote:
>
> Hello all
>
> Has anyone ever done any work to quiet down the ignition system (spark
> impulse noise) in a gasoline powered vehicle?? I wonder if one could
> use large ferrite beads to choke off the spectrum of the spark from
> radiating off the wire at the frequencies of interest. 1 mhz and
> above? I have done a lot of grounding , and am using resistor plugs
> and wires.. Are there any shielded wire kits out there?
>
> PaulC
> "Noisy in Connecticut"

I bonded my entire vehicle a few years back. The interference from ignition dropped from S-9 to S-2. Follow thw suggestions in the Radio Amateurs Handbook for mobile installiations. Most police vehicles use the same type of body panel bonding where all of the panels are connected with braid. it does work quite well. Also you might want to install some 0.01 uf disc ceramic caps across the heater motor leads and wiper motor leads. This helped quiet them down too.

Gary

1227. Re: WTB:5KW AM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: Roland S Geter PhD <roland@mycronet.com>
Message-ID: <4g41pi$ica@news1.goodnet.com>
Source record: 107255
Cross-posted to: aus.radio.amateur.misc,aus.radio.amateur.wicen,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.swap

What are you going to do with it?

Roland S Geter PhD
Internet: roland@mycronet.com
Packer: WB6LNA@kc7y.az.usa.noam

1228. Re: WTB:5KW AM Transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: Roland S Geter PhD <roland@mycronet.com>
Message-ID: <4g41rv$ica@news1.goodnet.com>
Source record: 107256
Cross-posted to: aus.radio.amateur.misc,aus.radio.amateur.wicen,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.swap

What are you going to do with it?

Roland S Geter PhD
Internet: roland@mycronet.com
Packer: WB6LNA@kc7y.az.usa.noam

1229. WTB HP5082-2900 diodes (not from I.R.&C.)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: kk5dr@bga.com
Message-ID: <4g5eek$nep@giga.bga.com>
Source record: 107257

I need 4 to 8 of these diodes,but I don't want to pay more than $4 each.

1230. Re: Information sought by new Tech

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: biekert@phoenix.net
Message-ID: <4g5el8$945@gryphon.phoenix.net>
Source record: 107258
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap,alt.radio.amateur.club.clarc,rec.radio.amateur,rec.radio.amateur.digital.misc,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

Hi,
First I would be sure to get a unit that does both UHF/VHF. There are now more UHF repeaters in some states (Texas for instance) than VHF! The Yaesu 5100 is a good choice as are some of the kenwood, icom, and alinco models. I like the one that allow for 2 V's or 2 U's as well as a V and a U at same time.. so look for that.

For satellite work you need All mode rigs (CW/SSB).. they are considerably more expensive than the FM variety. You can use transverters from an HF rig, but you will lose features like auto doppler shift correction etc. AND if you want to work some of the satellites that have UHF/VHF/HF capabilities it becomes difficult with the transverters in line.. but not impossible.

Get a good FM Dual bander... learn about the hobby from a local club, see if others are into satellites and find out what works for them. Grab the general/advanced and then have fun!!

73 hope this helped a bit.. perhaps others will comment.

If you want to join our listserver (we are in Houston TX) you may do so and post your question out there... to subscribe

email to listserv@mailserv.phoenix.net
<no subject)
sub clarc
<blank line>
<send it>
Then after you have subscribed, send your questions to
clarc@mailserv.phoenix.net

To unsub, repeat above and say unsub clarc

Several of our members are into satellites.

73 Bob

Bob Biekert -- Houston Texas
WormHole Development Team Project Lead

1231. Want to made myself a SWR and Milli Watt meter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: Geert.Pirens@ping.be
Message-ID: <4g38cu$nif@ping1.ping.be>
Source record: 107259

Hello

Can somebody help me on this ?

I want to make myself a SWR and Power meter for the 2M and 70cm.

If you have some Schematic diagrams or PCB layouts ?

Plaese let me now

ALL INFORMATION IS WELKOM

73!

Geert, ONL2057

1232. Wanted schematic diagram of SWR and power meters. who can help ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: ONL2057@amsat.org
Message-ID: <4g38hh$nif@ping1.ping.be>
Source record: 107260

Hello

Can somebody help me on this ?

I want to make myself a SWR and Power meter for the 2M and 70cm.

If you have some Schematic diagrams or PCB layouts ?

Plaese let me now

ALL INFORMATION IS WELKOM

73!

Geert, ONL2057

1233. Simplex Repeater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: dll@chattanooga.net
Message-ID: <4g3m20$6rs@news.chattanooga.net>
Source record: 107261

Can anyone tell me which magazine (and month) had the article about a simplex repeater built from a radio shack digital playback module? It has been in the last few months and I am now wishing I had bought it when I saw it.

David Lawson
KF4EBP

1234. RE:Not a binaries group? QRP Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4g51h1$7vu@cloner3.netcom.com>
Source record: 107262

In regards to the QRP schematics scanned and ready,

>In article <heiss.43.0048263F@ualr.edu>, <heiss@ualr.edu> wrote:
>>
>>I think here is as good a place as any to post them. Personally I
would
>>prefer JPEG's. I would start with one and see what kind of response
you get.
>>They should be uuencoded first.
>
>Do not post them here. This is not a binaries group and news admins
don't
>like hidden binaries groups; they are even more likely to block them
than
>overt binaries groups.
>
>JPEG is not a good format for line drawings. TIFF FAX, PCX and GIF
are
>all better at handling them (JPEG is very good for natural images,
though).
>--
>David Woolley, London, England david@djwhome.demon.co.uk

Well Mr. Woolley, where exactly would you want QRP schematics posted?
I don't understand why you would not post it here since this is a
newsgroup dedicated to QRP, schematics, building, etc.

Tim Hynde
ka8ddz

1235. FS:3CX800A7,4CX400,4CX250B

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: bones@swcp.com
Message-ID: <4g5166$mqm@sloth.swcp.com>
Source record: 107263

```
ITEM QTY PART NUM MANUF CONDITION PRICE(EA)
---- --- -------- -------- -------------------- --------
1 1 3CX800A7 EIMAC NEW - SEALED BOX $280

2 2 4CX250B EIMAC BOX MARKED "SPARE" 10

3 2 4CX400A SVETLANA NEW - WITH 150
SOCKETS & PLATE CAPS
---- --- -------- -------- -------------------- --------

CONTACT GARY (K8BI@SWCP.COM) WITH BEST OFFER ** NO PHONE CALLS **
THANKS
```

1236. Re: Broadcasting Radio Station Database for you.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: Roland S Geter PhD <roland@mycronet.com>
Message-ID: <4g4170$hl2@news1.goodnet.com>
Source record: 107264
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

Hi Chuck,

Let's try to get the database over here on this provider, OK?

Thanks
Roland S Geter PhD
roland@mycronet.com

1237. Re: Not a binaries group? QRP Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4g5aus$9c7@news-f.iadfw.net>
Source record: 107265

timhynde@ix.netcom.com(Tim Hynde ka8ddz/qrp Rochester, MI) wrote:

>Well Mr. Woolley, where exactly would you want QRP schematics posted?
>I don't understand why you would not post it here since this is a
>newsgroup dedicated to QRP, schematics, building, etc.

>Tim Hynde
>ka8ddz

Tim,
Thanks, but I'll save you the "flame job" that I got for asking
and then posting the first one! I knew it was poor netiquette to post
binaries on a non-binary news group, but after I asked and got several
positive responses, I did it with the first and smallest one to give
it a try. Apparently there is quite a bit of lag time on some
servers, I got negative responses after I posted the file.
The problem with binaries is that several folks apparently get
this newsgroup through a mailing list, therefore they get everything
that gets posted whether they want it or not. A binary file takes too
much time for them to download, especially if they are paying by the
minute.
I posted the short one first to give it a try, but now have found
a better way. All of the schematics will be on John Cunliffe's web
page at:

www.frontiernet.net/~cunliffe

He'll put them up as soon as he gets them. I already sent him the
first two files. This way, the guys who get the newsgroup from a list
won't have to put up with it. When he gets all the files posted, I'll
drop a note on here.

Thanks for the help, but the guys are right, it really isn't the best
way to do it, it was just the only way I had at the time!
73,
Kerry Miller
WD5ABC

Loook for us on Field Day - N5 Big Texas Hombres (N5BTH) at 5 watts!

1238. Re: Printer generated transparency problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: JLAN98A@prodigy.com
Message-ID: <4g5f3o$ne6@useneta1.news.prodigy.com>
Source record: 107266

My printer controls darkness by software command.I use paintbrush for my pcbs as most the layouts are straight lines.Look up sci.electronics. basics for a recent article describing various toner transfer methods 73 Ken

1239. Re: Not a binaries group? QRP Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn4icjii.3m7.mulveyr@ll.aa2ys.ampr.org>
Source record: 107267

On 17 Feb 1996 16:59:13 GMT, Tim Hynde ka8ddz/qrp Rochester, MI <timhynde@ix.netcom.com>
wrote:
> In regards to the QRP schematics scanned and ready,
>
>
>>In article <heiss.43.0048263F@ualr.edu>, <heiss@ualr.edu> wrote:
>>>
>>>I think here is as good a place as any to post them. Personally I
>would
>>>prefer JPEG's. I would start with one and see what kind of response
>you get.
>>>They should be uuencoded first.
>>
>>Do not post them here. This is not a binaries group and news admins
>don't
>>like hidden binaries groups; they are even more likely to block them
>than
>>overt binaries groups.
>>
>>JPEG is not a good format for line drawings. TIFF FAX, PCX and GIF
>are
>>all better at handling them (JPEG is very good for natural images,
>though).

>
>Well Mr. Woolley, where exactly would you want QRP schematics posted?
>I don't understand why you would not post it here since this is a
>newsgroup dedicated to QRP, schematics, building, etc.

You wouldn't want to post it here, because it's generally considered
to be poor USENET practice - many people pay for their news/mail
feeds, and don't particularly like paying for massive posts in discussion
groups. Not to mention that the ignorant poster will quite likely
be mail-bombed. :-)

The *PROPER* way is to post a short note indicating the FTP site where
the schematic can be retrieved, or the address of a web page where it
can be viewed. As it happens, there is a QRP mailing list at
lehigh.edu that also has an FTP site full of QRP-related material.
That would be a fine place to put it.

- Rich

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com

aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

1240. Re: RE:Not a binaries group? QRP Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <824590730snz@lfheller.demon.co.uk>
Source record: 107268

In article <4g51h1$7vu@cloner3.netcom.com>
timhynde@ix.netcom.com(Tim
"Tim Hynde ka8ddz/qrp Rochester, MI " writes:

> In regards to the QRP schematics scanned and ready,
>
>
> >In article <heiss.43.0048263F@ualr.edu>, <heiss@ualr.edu> wrote:
> >>
> >>I think here is as good a place as any to post them. Personally I
> would
> >>prefer JPEG's. I would start with one and see what kind of response
> you get.
> >>They should be uuencoded first.
> >
> >Do not post them here. This is not a binaries group and news admins
> don't
> >like hidden binaries groups; they are even more likely to block them
> than
> >overt binaries groups.
> >
> >JPEG is not a good format for line drawings. TIFF FAX, PCX and GIF
> are
> >all better at handling them (JPEG is very good for natural images,
> though).
> >--
> >David Woolley, London, England david@djwhome.demon.co.uk
>
>
> Well Mr. Woolley, where exactly would you want QRP schematics posted?
> I don't understand why you would not post it here since this is a
> newsgroup dedicated to QRP, schematics, building, etc.

David is quite right, images and binaries have no place on a newsgroup like this. The schematics should be put on a server somewhere, so that they can be downloaded using ftp. A short periodic posting could then be made to inform people where they are, or a mention made in the group's FAQ. This way, they are always available, people know where they are, and bandwidth isn't wasted distributing them to people who don't want them. This is simply good "netiquette", and is probably in this group's charter, that was promulgated when it was formed, and should also be in the FAQ, if one exists.

73, Leon
--

Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

1241. Driving a CCD/ Building a CCD camera

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: thebots@aol.com
Message-ID: <4g5sg9$ago@newsbf02.news.aol.com>
Source record: 107269

How might I go about constructing a CCD camera out of components? Can anyone direct me to schematics?

1242. FS -- SHURE 450 DISK MIC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: Bill <debral@falcon.cc.ukans.edu>
Message-ID: <1996Feb17.213917.114220@kuhub.cc.ukans.edu>
Source record: 107270

SHURE MODEL 450 desk mic

Selectable impedance:

HI-Z = 15K ohm
LO-Z = 215 ohm

$35.00

I will pay all shipping and C.O.D. fees to any address
in lower 48 states.

Bill
AA4FM/0

1243. Re: Driving a CCD/ Building a CCD camera

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-17 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.60.01F8A1BE@azstarnet.com>
Source record: 107271

In article <4g5sg9$ago@newsbf02.news.aol.com> thebots@aol.com (TheBots) writes:
>From: thebots@aol.com (TheBots)
>Subject: Driving a CCD/ Building a CCD camera
>Date: 17 Feb 1996 19:39:37 -0500

>How might I go about constructing a CCD camera out of components? Can
>anyone direct me to schematics?

Buy "The CCD Camera Cookbook" by Veikko Kanto, KB7UCZ, and John Munger, N7WBQ.
The publisher is Willmann-Bell, Box 35025, Richmond, VA 23235, (804) 320-7016.

This will take you through theory to construction and operation of a CCD
camera. The book includes software for trouble shooting and image processing.
I'm not sure of the cost, but I believe it's under $20.

Have fun.

73, Wes -- N7WS

1244. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: sco@sco-inc.com
Message-ID: <sco.700.000BB056@sco-inc.com>
Source record: 107079

In article <4g6vfl$m8e@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>From: w8jitom@aol.com (W8JI Tom)
>Subject: Re: WTB 6,000 watt linear amp 75 meters
>Date: 18 Feb 1996 05:36:37 -0500

I thought 1500w was the legal limit?

1245. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: wave@mindspring.com
Message-ID: <4g7hc4$pt6@brickbat.mindspring.com>
Source record: 107080

'In article <4g6vfl$m8e@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom)
'writes:
'From: w8jitom@aol.com (W8JI Tom)
'Subject: Re: WTB 6,000 watt linear amp 75 meters
'Date: 18 Feb 1996 05:36:37 -0500

'I thought 1500w was the legal limit?

1500W is the legal limit, But what if he want's to run 1500W at reduced IMD.

1246. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn4iemgt.4fd.mulveyr@ll.aa2ys.ampr.org>
Source record: 107081

On Sun, 18 Feb 1996 08:33:06 -0400, sco@sco-inc.com <sco@sco-inc.com> wrote:
>In article <4g6vfl$m8e@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>>From: w8jitom@aol.com (W8JI Tom)
>>Subject: Re: WTB 6,000 watt linear amp 75 meters
>>Date: 18 Feb 1996 05:36:37 -0500
>
>I thought 1500w was the legal limit?

It's a troll, son. :-)

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com
aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

1247. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4g7qgj$16k@newsbf02.news.aol.com>
Source record: 107082

In article <sco.700.000BB056@sco-inc.com>, sco@sco-inc.com writes:

>I thought 1500w was the legal limit?
>
>

Not on 75. There are no laws after 6 pm local time and until 9 am.
Between those hours, it's the new CB band.

73 Tom

1248. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: emeb@indirect.com
Message-ID: <emeb-1802961146220001@s176.phxslip4.indirect.com>
Source record: 107083

In article <willmore.823905417@whelk>, willmore@whelk.cig.mot.com (David A Willmore) wrote:

> What if you could widen
> the passband while tuning and narrow it down once you have aquired lock?

That's not a bad idea in some situations. Generally though, you want the loop filter to be as wide as possible in order to track out the inherent noise of your VCO. Sometimes you want to FM the VCO by adding an audio signal to the output of the loop filter - then, a narrower loop filter won't track out your FM signal.

> Maxim has some nice eighth order switched capacitor filters which could
> easily fill this role. They are clocked at 100 times the highest passed
> frequency and are available in the three classic filter topoligies. It
> would be easy to put in a 1MHz clock with a 10x prescaler for a wide
> passband and then increase the prescaler value (eight bit counter) when
> the PLL has locked. Would this do what I think and decrease phase noise?

Typically, the clock-feedthrough of a SCF will tend to cause nasty sidelobes on your VCO unless you place additional RC filters in the circuit. Essentially, the requirements for the loop filter are easy to achieve with a simple 2nd order circuit. SCFs really don't add anything to the performance.

> Just a few thoughts and questions. BTW, anyone have a good VCO design for
> 60.7 to 64.7 MHz? :)

You might want to check out Motorola App Note AN980 and the data sheet for the MC3362 for some tips on such things. The MC3362 has a built-in oscillator and varactor diode which work up to 180 MHz, and I have seen 40m designs using it as well.

--
Eric Brombaugh KC7GXA
emeb@indirect.com (private)
ericb@sicom.com (work)

1249. WANTED: Remote Speaker/Mic Project Ideas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: mlamb@sunny.ncmc.cc.mi.us
Message-ID: <4g833f$npl@srvr1.engin.umich.edu>
Source record: 107084

I have a 2m rig set up in the kitchen...I want to wire the audio to 4 or 5 different location, inside and outside my house...I would like to have a cheap mic hooked up at each location I have a speaker. Has anybody ever made a project like this? Any suggestions?

KB8VBA, Michigan
mlamb@sunny.ncmc.cc.mi.us

1250. building a packet interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: dicken@bgnet.bgsu.edu
Message-ID: <4g822s$1h8@infoserver.bgsu.edu>
Source record: 107085

Ill reference Feb 1996 73 magazine, article "Basic Packet Modem".
Doesn't seem to difficult to replicate and the price sure beats
whats available commercially. (if all you want is the BASIC packet).

Sometime ago, I built a baycom for my C-64. The questions I have,

1. Can this C-64 baycom interface be modified to run on an IBM?

2. If it can be changed, what software could be used (Procomm
perhaps)?

3. Has anyone sucessfully done what I am looking for?

Thanks for stopping and looking in.
73's Chuck

--
Ham Call WD8ICP / / /
Internet dicken@bgsuvax.bgsu.edu / / /
Telephone (419) 372 7757 /_____/_____/
/ / | /

1251. Re: Need Handheld Doppler Ant Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: ab5p@swcp.com
Message-ID: <4g82tb$2mg@sloth.swcp.com>
Source record: 107086

Hi Steve,

I'll bet you are looking for the "Handi-Finder", which was described in QST, May, 1993, pg. 35. This circuit was not really a doppler design, but one of the "time difference of arrival" designs. I don't have a fax at home, and cannot use the work fax for personal use (even collect), but maybe one of the other folks reading this can help. If all else fails, I CAN mail you a copy. Let me know.

73 de Brett AB5P
---
crawford@uniserve.com wrote:

>Hello:

>It never fails, you keep a magazine for years and one day decide you
>should toss it out. Within seconds of the garbage man taking it away,
>you NEED an article from it!!!

>I'm looking for an article on building a handheld D.F. antenna with a
>small doppler circuit on the handle. This particular one looked like a
>bow tie antenna on a short handle with a 9vdc battery and PCB doppler
>circuit attached. I can't remeber which mag it was in, but it was a
>few years old.

>If you have the article or a similar circuit, can you PLEASE contact
>me and I'll pay for costs to get a copy.

>If you wish, you could fax it to me, call my voice phone number and
>I'll arrange for the fax to be collect.

>Steve Crawford, VE7IIF
>Ph: (604) 826-6295
>Fax: (604) 826-4930

>PGP Fingerprint: 31 CD 7E DA 1B E3 8A 14 E2 9B 0D D8 C5 27 23 38
>Finger: crawford@uniserve.com for PGP Public Key

>Steve Crawford
>PGP Fingerprint: 31 CD 7E DA 1B E3 8A 14 E2 9B 0D D8 C5 27 23 38
>Finger: crawford@uniserve.com for PGP Public Key

ab5p@swcp.com
Albuquerque Transmitter Hunting Homepage:
http://www.swcp.com/~ab5p/foxhunt.html

1252. 10m BEACON TRANSMITTER.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: samir_khayat@yebbs.com
Message-ID: <271@yebbs.com>
Source record: 107087

Hi,
I am looking for a 10m Transmitter KIT (1-5 W) to be used for the 10m
Beacon OD5TEN (Locator: KM74WK - Tripoli Lebanon).
The Beacon will be running from the same Location of OD5SIX which is running
on 50.078.
I already have the crystal of the Beacon (28.180) and have built the IDer
and put the message in the Eprom.
It would be appreciated to give me the address from where I can buy the
Kit.
Looking forward to hearing your replies.

Best 73's

Samir (OD5SK / KC5RYL)

... ���� CQ CQ CQ DE OD5SK ر��

___ Blue Wave/QWK v2.20 [NR]

1253. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960218132147.5833F-100000@biggulp.callamer.com>
Source record: 107088

All of us might want to check out the latest issue of COMMUNICATIONS QUARTERLY. There are quite a few VCO desgins therein and a number of PLL considerations worth reading.. 73 Cliff W6HDO

On Sun, 18 Feb 1996, Eric M. Brombaugh wrote:

> In article <willmore.823905417@whelk>, willmore@whelk.cig.mot.com (David A
> Willmore) wrote:
>
> > What if you could widen
> > the passband while tuning and narrow it down once you have aquired lock?
>
> That's not a bad idea in some situations. Generally though, you want
> the loop filter to be as wide as possible in order to track out the
> inherent noise of your VCO. Sometimes you want to FM the VCO by adding
> an audio signal to the output of the loop filter - then, a narrower loop
> filter won't track out your FM signal.
>
> > Maxim has some nice eighth order switched capacitor filters which could
> > easily fill this role. They are clocked at 100 times the highest passed
> > frequency and are available in the three classic filter topoligies. It
> > would be easy to put in a 1MHz clock with a 10x prescaler for a wide
> > passband and then increase the prescaler value (eight bit counter) when
> > the PLL has locked. Would this do what I think and decrease phase noise?
>
> Typically, the clock-feedthrough of a SCF will tend to cause nasty sidelobes
> on your VCO unless you place additional RC filters in the circuit.
> Essentially, the requirements for the loop filter are easy to achieve
> with a simple 2nd order circuit. SCFs really don't add anything to the
> performance.
>
> > Just a few thoughts and questions. BTW, anyone have a good VCO design for
> > 60.7 to 64.7 MHz? :)
>
> You might want to check out Motorola App Note AN980 and the data sheet
> for the MC3362 for some tips on such things. The MC3362 has a built-in
> oscillator and varactor diode which work up to 180 MHz, and I have seen
> 40m designs using it as well.
>
> --
> Eric Brombaugh KC7GXA
> emeb@indirect.com (private)
> ericb@sicom.com (work)
>
>

1254. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4g8dri$hac@news-f.iadfw.net>
Source record: 107089

Mars@dum.edu wrote:

> Please forward info.

If you can find an old Alpha 77 2-holer, it will do it. I saw a guy
do 8kw before he started a fire at the base of the tower. Guess the
shunt feed for 160 wasn't up to it! Too much hassle to run that much
pwr.
73,
Kerry
WD5ABC

PS It's a hassle, but he was S9+40 in Europe!

1255. Spec for AMD ID8031AH MCU

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: Barry Newberger <bsn@fusion.ph.utexas.edu>
Message-ID: <4g6ilb$jkn@geraldo.cc.utexas.edu>
Source record: 107090

Can someone tell me what package and operating
temperature range the prefix ID denotes
on the subject line microcontroller.

Thanks,
Barry Newberger W5KH

1256. For Sale: general Electric Manuals, and some Motorola

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: kd6kml@napanet.net
Message-ID: <4g863r$iod@taz.napanet.net>
Source record: 107091

I have General Electric service manuals from the late 50's to the late 80' for sale. I also have some Motorola, also. I will sell complete manuals or just the sections you need. Please contact me via e-mail for prices and availibility. Also, if you would, please include a phone number and the best time to reach you.
JOSH KD6KML
kd6kml@napanet.net

1257. Heathkit Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: rwincer@central.co.nz
Message-ID: <4g6cu4$8ru@central.co.nz>
Source record: 107092

I am trying to keep my very old Heathkit HW101 on the air. But am having trouble sourcing 6HS6 RF amplifier tubes. I have tried many sources of tubes, but so far without success. If there is anyone out there with some new tubes to sell me, please contact me. rwincer@central.co.nz
73s Roger ZL2RX

1258. Re: 813 Xmtr for 160M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: dpsquigg@acs.eku.edu
Message-ID: <1996Feb18.222359.7597@acs.eku.edu>
Source record: 107093

Check the ARRL Operating Manual for the 160M windows that are used in different parts of the world. I really made me appreciate OUR frequency allocations!!!

1259. Re: NEED GPS INFORMATION MY NEW HOBBY!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: ctyoung@mtu.edu
Message-ID: <4g8pkh$3ds@geofac7.geo>
Source record: 107094

RStapestry (rstapestry@aol.com) wrote:
: I wish to build a working GPS reciever. Can anyone out there provide me
: with links to the technical data and/or circut designs to build one?
: I don't believe that it's proprietary, so someone out there must have
: built their own... right?
: Any help is appreciated.
:
: Btw, I'm 16 and also into robotics. Parts Donations Welcome (low budget
: here!!).
: Thanx

I suggest that you don't bother to build your own. They look really complicated, full of proprietary software. I think GPS is fascinating but you will end up with a whole tabletop full of stuff to emulate what goes on in a pocket sized case.

I think you are best off saving your money do buy one and finding interesting things to do with it.

There have been articles in 73 Amateur Radio Today and QST about things to do with store-bough GPSs, but they dont build them for the same reason they don't build their own handi-talkies.

Chuck Young ctyoung@mtu.edu

1260. FS: Jenning Vacuum Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: Robert Rolfness <rsrolfne@atnet.net>
Message-ID: <Pine.BSD/.3.91.960218143835.12297E-100000@ami.atnet.net>
Source record: 107095

I have for sale two models of Jennings Vacuum Variable Capacitors for $60 each. These are type UCS-375, 375 pfd. at 14,000 volt and type UCS-750, 750 pfd. at 14,000 volt.

73, Bob W7VZX

1261. Re: Ignition noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: William Vaughn <billv@olympus.net>
Message-ID: <4g5vom$oab@olympus.net>
Source record: 107272
Cross-posted to: sci.electronics.design,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Paulc,
You did not mention the age or type of vehicle. These are important factors since different models manifest there noise in different ways. One of the biggest problems in vehicles and boats are the alternators. A good preventitive maintenance item is to take your vehicle to an electrical shop and have them rebuild it. If that doesn't work then you might need an alternator filter. The marine types work best don't waste your money on the radio shack units. Install the filter as close to the output of the alternator as possible. The caps across all small motors and the bonding of body panels works good too.

1262. Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: amman@airmail.net
Message-ID: <4g66rh$65r@news-f.iadfw.net>
Source record: 107273

```
Need 2 tubes:
12BY7A
S2001 or 6146B
Thanks
Robert KC5RYI
amman@airmail.net
```

1263. Re: 82 Repeater in Kansas City, TXxID-1

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: narc@pacifier.com
Message-ID: <4g6ard$han@news.pacifier.com>
Source record: 107274
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I WRITE:

Of course if you are a smart jammer like myself. You simply
construct a simple automatic rf sensing switch box. Simply made from rip
off shack parts. What it does is for the first 100mills on the tx my rf
output is directed into a small 10 watt 50 ohm dumy load, after the cap
charges up it causes the relay to swithc me over to my antenna.
VAWALLLLAAAAA NO fingerprint. Of course no fingerprint is a fingerprint.
but now i cant give out all my secrets can I?
jeff aa7up
PDX, or

1264. Re: 82 Repeater in Kansas City, TXxID-1

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: dbaker@mail.bcpl.lib.md.us
Message-ID: <dbaker.160.00024F31@mail.bcpl.lib.md.us>
Source record: 107275
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <4g6ard$han@news.pacifier.com> narc@pacifier.com () writes:
>From: narc@pacifier.com ()
>Subject: Re: 82 Repeater in Kansas City, TXxID-1
>Date: 18 Feb 1996 04:44:29 GMT

>I WRITE:

> Of course if you are a smart jammer like myself. You simply
>construct a simple automatic rf sensing switch box. Simply made from rip
>off shack parts. What it does is for the first 100mills on the tx my rf
>output is directed into a small 10 watt 50 ohm dumy load, after the cap
>charges up it causes the relay to swithc me over to my antenna.
>VAWALLLLAAAAA NO fingerprint. Of course no fingerprint is a fingerprint.
>but now i cant give out all my secrets can I?
>jeff aa7up
>PDX, or
of course you could just mod the radio so that the final is "up" all the time
and just switch the link between the driver and final..........

Donald I. Baker
Reville Engineering Services
4619 Schenley Road
Baltimore, MD 21210-2525
(410) 467-7163
Custon Harsh Environment
Computers and RF Products
"Where no PC has gone before..."

1265. DTMF Program/Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <4g6jru$jc9@newsbf02.news.aol.com>
Source record: 107276

Hello everyone,

I have a DTMF program and the associated schematic free to anyone interested. The hardware is a simple two chip circuit which connects into your existing Parallel port, the port where the printer is connected.

The schematics are in a GIF format so you need a GIF viewer.

If you want it, e-mail me at PDRUNEN@AOL.COM and I will send it via the Internet!

Paul

1266. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4g6vfl$m8e@newsbf02.news.aol.com>
Source record: 107277

In article <n7ws.59.0018A582@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) writes:

>
>A Henry Radio 8K might come close.
>Happy QRPing.
>
>
>

Darn Wes, I just sold my old 3CPX5000B7 amp last week.

1267. Re: Power Supply schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-18 00:00:00 UTC
From: plove@PROBLEM_WITH_INEWS_DOMAIN_FILE
Message-ID: <4g6tvk$b9o@squick.apana.org.au>
Source record: 107278

Stephen Dunifer (From:frbspd@crl.com) wrote:
: Steve W (Steve@saga.demon.co.uk) wrote:
: : Hi all,

: : Could anyone out there help me out with a schematic diagram to build a
: : 13.8v 15-20A power supply, regulated and stabilised ?

: : Thanks in advance

: : Steve G7ULW
: : Steve@saga.demon.co.uk

: : --
: : Steve W

: See 73 Magazine, December 1991 page 66, that should take care of you.

: Stephen Dunifer
>> Anyone have any other sources, down here in VK, I'd have about as
much chance of finding a copy of 73 mag as getting a tax rebate.
Paul.

--
****
* E-Mail : plove@quux.apana.org.au | Ax25: vk4xd @ vk4wia.#bne.qld.aus.oc*
****

1268. Need MOD for Kenwood TH251a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: franko@arn.net
Message-ID: <4g8uep$mra@services.arn.net>
Source record: 107096

I'm trying to find a mod for the Kenwood TH251a thats take the tx past
CAP/MARS. Does one exist?

Thanks 73's
Frank M N5ZLT

franko@arn.net

1269. Build SSB Receiver in 5 minutes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: hts@thor.NET
Message-ID: <199602190642.AAA19131@odin.thor.net>
Source record: 107097

DE KC5RBM
Hi, I have experiment to build a SSB Receiver by connectting two AM SW receivers. I did it in 5 minutes and enjoy SSBand CW Ham Signal since then. I have every procedure and diagram written in my homebrew ham radio homepage. Please visit:
http://thor.net/~hts/index.html

and then go to link to Homebrew project page. Please give me commands. Thanks.

73

KC5RBM.

1270. Need: Scematics for CW tranciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: iaeste@studorg.uio.no
Message-ID: <4g9g23$lvg@ratatosk.uio.no>
Source record: 107098

Hi!
As a (fairly) new radio amateur, I am planning to go to Malta
for the summer holliday, and then take along a CW tranciever.
Therefore, I am looking for the posibillities to build one myself.
I only need the simplest of CW trancievers, something that's light
and easy to make, one band is enough.

I hope some friendly person out there would point me to some
inforemation about this, on WWW or ftp, or email: jane@ifi.uio.no

73 de LC1MAT/LB4PE
packet: LC1MAT@LA4O.OSL.A.NOR.EU

1271. Re: Ignition noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: paulc@esslink.com
Message-ID: <4g9os1$r57@news.esslink.com>
Source record: 107099
Cross-posted to: sci.electronics.design,rec.radio.amateur.misc,rec.radio.amateur.homebrew

William Vaughn <billv@olympus.net> wrote:

>Paulc,
>You did not mention the age or type of vehicle. These are important
>factors since different models manifest there noise in different ways.
>One of the biggest problems in vehicles and boats are the alternators. A
>good preventitive maintenance item is to take your vehicle to an
>electrical shop and have them rebuild it. If that doesn't work then you
>might need an alternator filter. The marine types work best don't waste
>your money on the radio shack units. Install the filter as close to the
>output of the alternator as possible. The caps across all small motors
>and the bonding of body panels works good too.

Wiliam,

The vehicle I am driving is a Volkswagen Vanagon, 1984 with electronic
ignition and fuel injection. The noise is coming from the ignition
system it is very easy to determinr when each plug fires. I may try
bonding parts of the vehicle although there are not a lot of
unconnected parts. I could try the doors and rear gate .

Thanks alot PaulC
"Noisy in Connecticut"

1272. TRADE: Toshiba T3200 for HAM Gear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: Al Wong <alwong@mitre.org>
Message-ID: <4g8q16$g0a@linus.mitre.org>
Source record: 107100
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Will trade:

Toshiba T3200 portable pc for ham gear. The Toshiba is a 286 with 1MB ram, 80 MB hd, and has 1 full length and 1 1/2 length slots to accept standard isa cards, and mono screen. It is in excellent working condtion. Great for packet.

Looking for:

GE MASTR II (newer model with the brown handle) in working condition with control head, cable, speaker, and mic.

Al Wong The above opinion does not reflect that
KF4GDD of my employer. As with ALL my opinions,
alwong@mitre.org I write them, you intrepret them.

1273. Re: DS-1A (DC-DC converter for Kenwood) question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: charles1@netcom.com
Message-ID: <charles1Dn04yE.Bxn@netcom.com>
Source record: 107101
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4ft09j$ias@crchh327.rich.bnr.ca>,
Ken Edwards <cnc23a@b4pph13e.bnr.ca> wrote:
>I have a Kenwood TS-820S that I would like to run off battery in
>cases of emergency. And as a (good ?) homebrew project, I thought
>I could emulate the offering from the manufacturer. Problem is,
>the information in the back of the service manual is sufficently
>ambigeous enough that I have a few questions.
>
>Is the transformer shown part of the DC-DC converter kit, or is
>it the one already in the radio, with the barrier strip that already
>has the matching color coded wires ?
>
>The drawing shows the same connector as used for AC input, but wired
>for DC, then another "power connector" thet does not appear to match
>the previous which interrconnects with the barrier strip. How exactly
>is the power (DC) connected into the system ?

I've looked into this also for my TS-820. The box that connects
to the TS-820 that allows DC operation only contains a two resistors
and two mega transistors.

The transistors are no longer in production, but the equivalent
is ZN4049, PNP germanium, 60A, 45V, TO-36, NTE28 at the tune
of $45 each. Thats $90 a pair. Not a pretty picture.

I think it would be more feasible to buy a DC to AC converter for
your cigarette lighter plug and drive the TS-820 with 120VAC.

I would be interested in anyones experience doing this.

1274. Re: NEED GPS INFORMATION MY NEW HOBBY!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: ericw@iaehv.nl
Message-ID: <4g9lld$7mp@iaehv.IAEhv.nl>
Source record: 107102

ctyoung@mtu.edu (Charles T. Young) wrote:

>RStapestry (rstapestry@aol.com) wrote:
>: I wish to build a working GPS reciever. Can anyone out there provide me
>: with links to the technical data and/or circut designs to build one?
>: I don't believe that it's proprietary, so someone out there must have
>: built their own... right?
>: Any help is appreciated.
>:
>: Btw, I'm 16 and also into robotics. Parts Donations Welcome (low budget
>: here!!).
>: Thanx

>I suggest that you don't bother to build your own. They look really
>complicated, full of proprietary software. I think GPS is fascinating
>but you will end up with a whole tabletop full of stuff to emulate
>what goes on in a pocket sized case.

>I think you are best off saving your money do buy one and finding
>interesting things to do with it.

>Hi!

Sure you can build one....it's been done by Madjaz Vidmar in I think
is called VHF-Communications, a German magazine and as far as I
know also available in the USA....
I'm sure that building a trx for example for HF which is good, is
more expensive than buying one, so the price is not always an
argument.
I'm at my qrl here, if someone wants to know exactly which VHF-COMM
decribes the GPS-system, just let me know.

73, Eric
\ Eric-Jan Wosten DDS
\ Best, Holland
==========

Internet: ericw@iaehv.nl
AMPRnet: pa3cev@pa3cev.ampr.org
AX25:pa3cev@pi8zaa.#bra.nld.eu

1275. ### KISS on a Baycom?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: edwint@greenie.com
Message-ID: <312852fb.1d2@greenie.com>
Source record: 107103

Hello people,

I've recently taken an interest in working tcp/ip over
packet, and it seems a little difficult to do that
with my homebrewed baycom-style packet modem.

Anyway, I've been considered porting over to a varient
of unix, and it seems I would need a TNC which supports
KISS (that'd mean my baycom would have to be scrapped).

Since cost is a rather high consideration for me, I'd like
to know if it's possible to homebrew a KISS interface for
a baycom-style packet modem? The idea doesn't seem impossible,
could someone point me in the right direction to work on
such a project?

73 de 9V1ZY

--
EdwinT@greenie.com -[Standard Disclaimers Apply]-

Now Faith is a substance of things hoped for,
the evidence of things not seen. [Heb 11:1]

As Email can be altered electronically,
the integrity of this communication is not guaranteed.

1276. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4g9oln$1oi@aldebaran.sct.fr>
Source record: 107104

Hi

On same subject, is there a better filter after a PLL than the
classical with opamp, 2 resistances and 2 capacitors ?

Regards

Have
a nice opworld@worldnet.fr
Day

1277. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4g9p8k$l1b@newsbf02.news.aol.com>
Source record: 107105

In article <4g8dri$hac@news-f.iadfw.net>, kmiller@airmail.net (Kerry W. Miller) writes:

>
>If you can find an old Alpha 77 2-holer, it will do it. I saw a guy
>do 8kw before he started a fire at the base of the tower. Guess the
>shunt feed for 160 wasn't up to it! Too much hassle to run that much
>pwr.
>73,
>Kerry

No offense Kerry, but that must have been a VERY special 77 two holer or the guy was BS'ing you. For example, I can find a lot of old Pontiac GTO owners that claim their cars run 11's! ;-) If that ETO was really doing 8 k out, the fire would have been in the amplifier! Maybe with the feedpoint arcing the meter said 8 kW, but 4 or 5 kW of it must have been reflected power!

77 two holers only run around 3-4 kW out (even with the bigger transformer)! 160 is one of the worst bands, where they only do around 3 kW or so out. Even at that power, the HV is down from 4000 volts no load to 3 kV!!!!

The plate choke is too small and the tank is too inefficient on 160, there is no input matching (just a parallel L/C circuit), and the power supply is WAY too weak. Even if you fixed all of that, the grids of the 8877's would pop like last week's Mexican dinner if each 8877 was pushed past 3 kW. With a big external plate supply and a big exciter a 77 owner is VERY lucky to see 5 kW out.

It takes a lot more than a tiny little girly whimp like an 8877 (or a even a pair of those little sissies) to do 8 kW! It takes a man sized amp with some real hair under it's arms.

73 Tom.

1278. Re: Ignition noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb19.142439.876@ke4zv.atl.ga.us>
Source record: 107106
Cross-posted to: sci.electronics.design,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <4g9os1$r57@news.esslink.com> paulc@esslink.com (Paul A. Cianciolo) writes:
>
>The vehicle I am driving is a Volkswagen Vanagon, 1984 with electronic
>ignition and fuel injection. The noise is coming from the ignition
>system it is very easy to determinr when each plug fires. I may try
>bonding parts of the vehicle although there are not a lot of
>unconnected parts. I could try the doors and rear gate .

Alas, older VWs had chronic ignition noise problems. Fortunately
there is a cure. VW engines are used in homebuilt aircraft, and
there is a *fully shielded* ignition kit available for the VW
engine. Check at the airport.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1279. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: datwyler@aros.net
Message-ID: <4ga128$r4@news.aros.net>
Source record: 107107

In article <4flegc$56j@news.aladdin.co.uk>, drassew2@aladdin.co.uk says...
>
>>Maxim has some nice eighth order switched capacitor filters which could
>>easily fill this role. They are clocked at 100 times the highest passed
>>frequency and are available in the three classic filter topoligies. It
>>would be easy to put in a 1MHz clock with a 10x prescaler for a wide
>>passband and then increase the prescaler value (eight bit counter) when
>>the PLL has locked. Would this do what I think and decrease phase noise?
>
>PLL 'Filters' don't actually filter as such. They serve to set the
>loop bandwidth and damping factors and as such only need one or two
>poles. For basic loops there is nothing to be gained by going to
>higher order filters. The PLL can only clean up phase noise closer to
>the carrier than the loop bandwidth. Phase noise needs to be
>minimised at start by using as wide a loop bandwidth as possible and a
>VCO with an inherently good phase noise performance in its own right.
>
>
>Don't even think of using switched capacitor filters in PLLs. There
^^
Better tell Linear Technologies Corp. Thieir Design Note 7 utilizes an
LTC1062, a 5th order, switched-capacitor filter for the loop filter. The note
shows the jitter of a standard RC filter in a CD4046 loop and a filter built
with this part. THe jitter is down to internal jitter of VCO (Claimed).

Douglas L. Datwyler WR7O
datwyler@aros.net

>could easily be horrible interactions between switching components and
>loop frequencies!
>
>73 Andy G4JNT
>

1280. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4ga0bl$dt2@usenet.continental.com>
Source record: 107108

>Not on 75. There are no laws after 6 pm local time and until 9 am.
>Between those hours, it's the new CB band.

Good one Tom; particularly 3894.5, and 3898 kHz.

-Paul

1281. Need Contact for Don Johnson RE: Screwdriver Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: David Nulton <dnult@axiom.net>
Message-ID: <4ga8hg$k9a@alterdial.UU.NET>
Source record: 107109
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

If anyone knows an email address, snail mail address, phone number, callsign, anything...please forward. I want to enquire about his "screwdriver antenna" design.

73s
de KI5XW

1282. Re: 'Memory keyer - Public domain code'

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.824750067.16058.jwicklun@mycroftxxx.halcyon.com>
Source record: 107110

In article <4fvojr$1fp@baleen.fore.com>, <ed@fore.com> writes:

> Well... I pose an idea...
>
> Pool a list of desired features, get a group of geeks together via
> internet, and group write and post the source code, and design and
> build a public domain keyer... and then make a group article for QST
>
> Sound plausable, or am I asking for a democracy in the land of
> chaos?

Hi Ed, sounds like an interesting project, and maybe something like this might get this group doing more that talking (spice things up a little). Its been getting a little boring here, and it is a homebrew group.

As for the processor, what is the power requirements of the HC11? I would think you would want to keep the power low, and would also think that the 6805 family might have some lower powered versions available. If I remember right, some of that family can also program themselves by a simple connection to a PROM.

I don't know if I can spend much time on it right now, but keep me informed if you get into a mail-list mode.

73 de KI7RH (Jay)

1283. Re: Heathkit Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.824750728.18216.jwicklun@mycroftxxx.halcyon.com>
Source record: 107111

In article <4g6cu4$8ru@central.co.nz>, <rwincer@central.co.nz> writes:

> I am trying to keep my very old Heathkit HW101 on the air. But am
> having trouble sourcing 6HS6 RF amplifier tubes. I have tried many
> sources of tubes, but so far without success. If there is anyone out
> there with some new tubes to sell me, please contact me.
> rwincer@central.co.nz
> 73s Roger ZL2RX
>
Hi Roger, I just purchased a couple of those from

International Components Corp
105 Maxess Road
Melville, NY 11747
(800)645-9154

they cost $4.60 each.

I would also expect Antique Electronics Supply to have them

Antique Electronic Supply
6221 South Maple Ave
Tempe, AZ 85253
(602)820-5411

73.....Jay

1284. wanted to buy

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <4gadkc$rmr@newsbf02.news.aol.com>
Source record: 107112

I'm 7/8 way thru project and ran out of Radio Shack press on labels. (They don't sell these any more.) Anyone with press-on's labelled ARCHER 270-201-3, (these were made in Holland for Radio Shack. Please leave message for Johnsonhe@aol.com

1285. Re: NEED GPS INFORMATION MY NEW HOBBY!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: rstapestry@aol.com
Message-ID: <4gajcn$bu@newsbf02.news.aol.com>
Source record: 107113

funny- I've built a number of walkie talkies, not loaded or anything, but they had good range. I was just hoping to find info.

1286. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4gaohl$qe7@abyss.West.Sun.COM>
Source record: 107114

In article <4ga128$r4@news.aros.net>,
Douglas L. Datwyler <datwyler@aros.net> wrote:
>In article <4flegc$56j@news.aladdin.co.uk>, drassew2@aladdin.co.uk says...
>>
>>>Maxim has some nice eighth order switched capacitor filters which could
>>>easily fill this role. They are clocked at 100 times the highest passed
>>>frequency and are available in the three classic filter topoligies. It
>>>would be easy to put in a 1MHz clock with a 10x prescaler for a wide
>>>passband and then increase the prescaler value (eight bit counter) when
>>>the PLL has locked. Would this do what I think and decrease phase noise?

...

>>Don't even think of using switched capacitor filters in PLLs. There
>^^
>Better tell Linear Technologies Corp. Thieir Design Note 7 utilizes an
>LTC1062, a 5th order, switched-capacitor filter for the loop filter. The note
>shows the jitter of a standard RC filter in a CD4046 loop and a filter built
>with this part. THe jitter is down to internal jitter of VCO (Claimed).

The problem with a switched capacitor PLL loop filter is that the
residual sampling noise of the filter could introduce additional
modulation sidebands in the VCO. This can be reduced by using an
RC low pass filter following the switched capacitor filter with a
corner much higher than the loop filter corner but lower than the
filter sample rate. The important question is "what is the application?".

A PLL used for frequency synthesis will be much more stringent than
a PLL used for clock recovery on a data signal or FM demodulation.
If you have modulation sidebands out 1MHz from the synthesizer
frequency that are -60dBc, that may not mean snot to a data recovery
circuit but could wreak havoc in a broadbanded radio transmitter.

I'm not familiar with LTC Design Note 7, but I'd guess they're
using the 4046 in some application other than a radio transmitter
or receiver local oscillator.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1287. Help getting into packet radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: bpruden@itc-dal.com
Message-ID: <4gajsg$j3s@dfw.nkn.net>
Source record: 107115

Greetings all, I have a Kantronics TNC setup at the station and currently attached to a 2mtr ht on an external 5db ground plane at approx 25 feet up. I have been able to "see" call sings going back & forth, but I am totally lost on how to connect or what I am doing. I am located in the NE part of Ft worth Texas, and can set it up on 144,220, or 440 bands. I'm looking for someone in the Dallas/Ft Worth areas that can help me get things going. Any help would be greatly appreciated.

....
:These postings are my own ideas and opinions. :
: :
:bpruden@itc-dal sysop@barefactsbbs.com nomad@tbf.com :
:The Bare Facts BBS - Domain name = barefactsbbs.com :
:Phone (817) 284 - 2551 / (214) 673 - 6164 IP=206.42.185.1 :
:...

1288. Re: DS-1A (DC-DC converter for Kenwood) question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4gaq03$3sh@news3.cts.com>
Source record: 107116
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

charles copeland (charles1@netcom.com) wrote:
: In article <4ft09j$ias@crchh327.rich.bnr.ca>,
: Ken Edwards <cnc23a@b4pph13e.bnr.ca> wrote:
: >I have a Kenwood TS-820S that I would like to run off battery in
: >cases of emergency. And as a (good ?) homebrew project, I thought
: >I could emulate the offering from the manufacturer. Problem is,
: >the information in the back of the service manual is sufficently
: >ambigeous enough that I have a few questions.
: >
: >Is the transformer shown part of the DC-DC converter kit, or is
: >it the one already in the radio, with the barrier strip that already
: >has the matching color coded wires ?
: >
: >The drawing shows the same connector as used for AC input, but wired
: >for DC, then another "power connector" thet does not appear to match
: >the previous which interrconnects with the barrier strip. How exactly
: >is the power (DC) connected into the system ?

I've looked into this for my TS-520SE. The DC version TS-520S
(or did I reverse the two names?) has an added heatsink on the back
with two switching transistors, wired to a terminal strip in the
rig. The power transformer is different, however. It has an added
winding to serve as a low voltage primary, switched by the transistors.
To convert to 12V DC in you would have to change the transformer
and add the heat sink/transistors on the back.

John Kolb KK6IL

1289. Re: Need Contact for Don Johnson RE: Screwdriver Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: Hank Blackstock <wa5jrh@ionet.net>
Message-ID: <4gatfk$cba@ionews.ionet.net>
Source record: 107117
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

David Nulton <dnult@axiom.net> wrote:
>If anyone knows an email address, snail mail address, phone
>number, callsign, anything...please forward. I want to enquire
>about his "screwdriver antenna" design.
>
>73s
>de KI5XW
>
Callsign is W6AAQ.

73 Hank WA5JRH

1290. Re: building a packet interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4gas0d$6o5@ixnews3.ix.netcom.com>
Source record: 107118

You can get Baycom software for the IBM pc also. It is on the QRZ
CDrom, and I would suspect on their home page also.

I think the schematics for the modem are in the documentation, if not
it is probably just a matter of putting in a RS-232 driver chip

In <4g822s$1h8@infoserver.bgsu.edu> dicken@bgnet.bgsu.edu (Chuck
Dicken,314 Hayes Hall,3727757,) writes:
>
>
>Ill reference Feb 1996 73 magazine, article "Basic Packet Modem".
> Doesn't seem to difficult to replicate and the price sure beats
>whats available commercially. (if all you want is the BASIC packet).
>
>Sometime ago, I built a baycom for my C-64. The questions I have,
>
>1. Can this C-64 baycom interface be modified to run on an IBM?
>
>2. If it can be changed, what software could be used (Procomm
> perhaps)?
>
>3. Has anyone sucessfully done what I am looking for?
>
> Thanks for stopping and looking in.
> 73's Chuck
>
>
>--
>Ham Call WD8ICP / / /
>Internet dicken@bgsuvax.bgsu.edu / / /
>Telephone (419) 372 7757 /______/________/
> / / | /

1291. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4gavt8$j7a@news-f.iadfw.net>
Source record: 107119

w8jitom@aol.com (W8JI Tom) wrote:

>In article <4g8dri$hac@news-f.iadfw.net>, kmiller@airmail.net (Kerry W.
>Miller) writes:

>>
>>If you can find an old Alpha 77 2-holer, it will do it. I saw a guy
>>do 8kw before he started a fire at the base of the tower. Guess the
>>shunt feed for 160 wasn't up to it! Too much hassle to run that much
>>pwr.
>>73,
>>Kerry

>No offense Kerry, but that must have been a VERY special 77 two holer or
>the guy was BS'ing you. For example, I can find a lot of old Pontiac GTO
>owners that claim their cars run 11's! ;-) If that ETO was really doing
>8 k out, the fire would have been in the amplifier! Maybe with the
>feedpoint arcing the meter said 8 kW, but 4 or 5 kW of it must have been
>reflected power!
>
>77 two holers only run around 3-4 kW out (even with the bigger
>transformer)! 160 is one of the worst bands, where they only do around 3
>kW or so out. Even at that power, the HV is down from 4000 volts no load
>to 3 kV!!!!

>The plate choke is too small and the tank is too inefficient on 160, there
>is no input matching (just a parallel L/C circuit), and the power supply
>is WAY too weak. Even if you fixed all of that, the grids of the 8877's
>would pop like last week's Mexican dinner if each 8877 was pushed past 3
>kW. With a big external plate supply and a big exciter a 77 owner is VERY
>lucky to see 5 kW out.

>It takes a lot more than a tiny little girly whimp like an 8877 (or a even
>a pair of those little sissies) to do 8 kW! It takes a man sized amp with
>some real hair under it's arms.

>73 Tom.
Tom,
Hi! It really will do it, but not for long. The 8kw was on a
PEP meter, not a "real" meter. The 8877 won't last long at that rate,
but this guy has more money than sense anyway. He has a wall full of
OO cards, collects them like QSLs!
73,
Kerry
PS Yep, he's full of it, but I saw the meter this time, I thought he
was lying too, had to go see it. Does that make me an accessory?

1292. crystal lattice filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <4gauoq$4nr@newsbf02.news.aol.com>
Source record: 107120

Looking to purchase several of the old McCoy 9 MHz crystal lattice filters
.
These carried the nickname Silver sentinal and Golden Guardian.
SSB bandwidths only.
Please direct response to e-mail address

Johnsonhe@aol.com

1293. Tunnel diodes: are they any good? If so, any circuits out there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4gb2jb$jql@peabody.colorado.edu>
Source record: 107121

I've inherited some tunnel diodes, and I've heard them mentioned along with other things to produce microwaves. However, no issue of QST I have (since 1990) nor the ARRL UHF/microwave book actually presents any circuits to make them do something specific, with component values, etc. Could someone point me to such sources? I'm interested in 5.7, 10, and 24 GHz at the moments, but if they go higher...

If they have gone wayward for a reason, "the spark transmitters of the microwaves," say, then I'd like to hear about that too. Nothing I have gives them more than a line or two of "Tunnel diodes can also be used to generate microwaves."

Thanks,

Bruce, N6URH

1294. Neel parts to restore old Keys and Bugs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: Neal McEwen <nmcewen@metronet.com>
Message-ID: <31296284.1E73@metronet.com>
Source record: 107122

I have several restoration in progress and need parts. Do you have any
old telegraph keys or bugs lying in around. I would like to buy what you
have for parts. Would also be interested in any servicable keys that you
have. Check out my home page for a list of duplicate keys that I have
for trade.
--
73 de K5RW - Neal McEwen - Richardson, TX (Dallas)
******** I collect old telgraph and wireless telegraph keys *********
HomeNet - nmcewen@metronet.com - OS/2 tcp/ip SLIP
HomePage - http://fohnix.metronet.com/~nmcewen/k5rw.html

1295. FS: K-Band Radar unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: greends01@aol.com
Message-ID: <4gbiu4$cqa@newsbf02.news.aol.com>
Source record: 107123

For sale: KR-11 Kustom Signals mobile radar unit. Just calibrated in 95. can be used stationary or moving. Auto or manual modes with overspeed indicator. Both target and patrol speed windows. Comes with case. Asking $400.00. includes shipping.

1296. need info..sorenson power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-19 00:00:00 UTC
From: whowell@epix.net
Message-ID: <NEWTNews.824751011.19140.whowell@epix.net>
Source record: 107124

```
i need any literature,schematics for a dcr10-40b sorenson power supply.
made by raytheon co.
email whowell@epix.net
call 610 588 4463
de bill n3ipj
```

1297. How to make a simple Hi-Q loop

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: Peter Shintani <shintani@tv.sony.co.jp>
Message-ID: <4gb4c3$qeb@oskgw.osk.sony.co.jp>
Source record: 107125

Hi:
I decided to throw away some efficiency for the sake of simplicity.
Most HF hi-Q loop antenna are made in the shape of an octagon since
this approximates a circle quite well. However, there are many 45
degree elbow joints which can cause the resistance to increase and thus
reduce efficiency. Furthermore the use of a trombone capacitor for
tuning is "neat" but is places hardware inside the loop and is difficult to
align for smooth operation.
I designed and built a square loop. Cut a 10 foot piece of 3/4" copper
pipe into four equal lengths. Use two 90 degree elbows to join three of the
pieces into a square. Attach a "T" fitting to the unattached open ends. Take the
remaining fourth piece of pipe, cut about an inch off of it, and then cut it in half, so
that
it is about 1.25 ft long.
There are plastic pipe inline joint meant for 1/2" ID
plastic pipe. 1/2' plastic pipe OD is very close to the OD of 3/4"
copper pipe. Ream the inside ID out so that it makes
a tight friction fit over the 3/4" copper pipe piece that is about 1.25 ft long.
Slip the plastic joint over one of the 1.25 ft long piece. Fit a 1.25 ft piece
into a "T" fitting, and do the similar to the other side. Finally, tightend the
plastic joint to make a rigid square. No alignment problems.
Sweat solder the T fittings and 90 degree elbows. Make sure to push the plastic joint
away from the side being soldered, it might be deformed from the heat of soldering.

Buy and cut a +2.5 ft length of 1/2" pipe
and solder some nuts into the ends, cover with heat shrink tubing. Slide
the 1/2" heat shrink covered pipe into the loop through the "T" fittings to
make a variable capacitor. Use a threaded rod to move the 1/2" pipe with a low
rpm motor.

A gamma match is used to match the coax to the loop, it should be centered opposite
the plastic joint, and it's lenth should be about 1/4 the length of the main loop.
I used a ferrite bead balun but I haven't confirmed if it hurts or helps. The piece of
RG-58, I had already had 70 beads on it from a previous project.

As is the antenna tunes from 10~30 MHz. If a vacum variable is used place of the
coaxial capacitor, the distributed capacitance affect is reduced so with a 5~200pF
unit, the tunning range is from 6.8~30 MHz.

Good luck and I welcome all comments.

Peter

1298. List Of Stamp Applications [960220]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: cj@hth.com
Message-ID: <4gbd0c$qg0@prometheus.algonet.se>
Source record: 107126
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
_____________________________________________________ _____
_____________________________________________________// L.O.S.A //_____

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
List Of Stamp Applications Date: 960220
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

Contents

1.0 What is BASIC Stamp ?
1.1 What is L.O.S.A all about ?
1.2 How can I contribute to this list ?
1.3 Where could I find L.O.S.A ?
1.4 List of contributions.
1.5 Credits and other things.

1.0 What is BASIC Stamp ?

This is being written for people who have no idea of what a BASIC Stamp is...

BASIC Stamps are small reprogrammable single board computers (SBC) that run BASIC programs and are made by Parallax, Inc. in US. At first glance, they may seem fairly minimal - and in fact, they are. But with software that fully utilizes all available hardware, the Stamps give you powerful features - without the cost of hardware.

Their low cost and simplicity make the Stamps perfect for many prototyping and control applications. It's suitable for electronics hobbyists as well as electronics professionals in many different areas.

Typical application areas for BASIC Stamp's are...

- General electronics
- Home automation
- Robotics
- Mini PLC
- Education
- Prototyping
- HAM related applications
- Special effects in films

- Industri control
- Geological instruments
- Computer peripherals
- Scale model hobbyists

As an talent engineer and technical writer expressed it...

- BASIC Stamp is the 555 of the 90's !

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remeber it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share that's even better but it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in the L.O.S.A form on the Web-page...

http://www.hth.com/losa.html

[--- cut ---]

```
==========================================================================
- L.O.S.A Contribution Form -
==========================================================================
New Contribution [ ] Update [ ]
--------------------------------------------------------------------------
Title :
Author: Date:
E-mail: (optional)
--------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
```

Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You could soon always find the latest version on the following URL...

http://www.hth.com/losa.html

1.4 List of contributions

> = Indicates a new or updated application since last time.

001 Robo-Cat
002 Logic Rudder
003 Interfacing MAX186 8 channel 12bit A/D
004 Scrolling LED Sign
005 Tone Decoder
>
006 Pager
007 HexWalker Mobile Robot
008 Robo Bug
009 EXPBOT Robot controlled by Stamp
010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer

016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader
>## 020 Telephone Card Reader
>## 021 DTMF Decoder
>## 022 Ion chamber radiation monitor
>## 023 Barn Monitor
>## 024 Dallas one-wire interface

==========

Title : Robo-Cat [## 001]

==========

Date : 950807
Author: Gustavson Guy W.
E-mail: GWGUSTAVSO@mpg.norstan.com

Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : http://www.winternet.com/~bigfoot/cat.html

Description :

My cat, Kesha, was recently diagnosed with Heptic Lipodosis. Or "Fatty Liver", basicly what this means is that for some reason he stoped eating and his liver started converting body to useable sugars. The fat deposists biuld up in the liver and cause severe liver damage. Because the liver isn't working well the cat feels crappy and wants to eat even less. The treatment for this disease is to run a tube down down the cats nose into his stomach, or a PEG tube through the abomine wall into the stomach and feed the cat a liquid diet this way.

I love my cat, but I can't be there every three hours to feed him through the tube for a month. Something about work and deadlines and such. So I went to a local supplus house and got a tiny motor driven pump, a case, some switches, a micro switch, ect...

The micro switch is mounted such that the switch trips for every rotation of the pump shaft. The stamp turns on the pump for on a single rotation at intervels programable from the controll switches on top. An alarm buzzer and LED flash if the pump fails to run for any reason. The unit is programable for 9 differents deleviery rates.

Now he gets a slow continuious feeding and he seems to tolerate this better than the 100ml feeding every three hours.

==========

Title : Logic Rudder [## 002]

==========

Date : 950812

Author: Christer Johansson
E-mail: cj@hth.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : http://www.hth.com/filelibrary/BS1-IC/

Description :

Many of the new and very realistic flight sims available today needs rudder to let you get full control. This one uses a digital pot from Xicor (X9104) and 10 other components. Connects to a standard IBM-PC game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right and to indicate when rudders move there is a red LED that lights up when you press the micro switches and to indicate center there is a green LED. If you press the both micro swithes the rudder will automaticly return to center position.

There is a trim pot to set the desired step rate from slow to very fast and the Xicor pot has 99 steps wich gives a fair resolution.

==========
Title : Interfacing MAX186 8 channel 12bit A/D [# 003]
==========
Date : 950925
Author: Helmut Fligge
E-mail: h.fligge@asco.nev.sub.de

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A

Description :

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via RS232 2400bps the stamp is asked to measure channel numbern. After conversion the result will be returned to the host computer as an ascii string (0 .. 4096). Conversion rate is about 4 measures per second.

==========
Title : Scrolling LED Sign [# 004]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D

Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the prototyping area of a Basic Stamp rev D. A scrolling alphanumeric message moves one pixel at a time, just like real scrolling LED signs, except this one only displays one full letter or portion of two letters at a time as the message moves by.

==========
Title : Tone Decoder [# 005]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Listens for telephone touchtones, displays phone numbers on LCD screen and echos them out RS-232 port. Circuitry fits in prototyping area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

==========
Title : Pager [# 006]
==========
Date : 950928
Author: Don McKenzie
E-mail: donmck@tbsa.com.au

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : http://www.labyrinth.net.au/~donmck

Description :

This program for the Basic Stamp is used to monitor 4 hardware signals. If a change takes place, (after testing for a false trigger) then a cheap 2400 baud MODEM is used to dial into a Telecom Alpha-Numeric pager. It leaves a message which consists of a 2 digit I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110"
means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a
short period, then hanging up, the Stamp will dial your Pager and
report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user
wishes to add enchancements such as "Multiple Ring-In's" say within
a minute, for a command selection, there is plenty of program space
left.

==========
Title : HexWalker Mobile Robot [# 007]
==========
Date : 950929
Author: T. R. Thornton
E-mail: mandtsys@ix.netcom.com

Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A

Description :

HexWalker is a six legged mobile robot that is controlled by a BASIC
Stamp or BS1-IC, and driven by three servo motors (similar to Futaba
S148). It is the simplest walking machine architecture that can walk
forward, backward, and turn left or right.

==========
Title : Robo Bug [# 008]
==========
Date : 951003
Author: David Novick
E-mail: dkn@cimar.me.ufl.edu

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn

Description :

Using two stamps, a robot with six legs (2 degrees of freedom each)
was able to walk and turn (at this stage, not very gracefully).

==========
Title : EXPBOT Robot controlled by Stamp [# 009]
==========
Date : 951009
Author: Marvin Green

E-mail: marvin@agora.rdrop.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it

Description :

This program allows a cool robot to move abound a room in search of light. Like a moth. Simple program changes can dramatically change the robots behavior.

==========
Title : Andrews Ever Evolving Lego Robot [# 010]
==========
Date : 951119
Author: Andrew H. Hochheimer
E-mail: softarts@ciaccess.com

Stamp model : BS2-IC
Code available: YES
Filename : N/A
URL : http://www.wincom.net/~softarts

Description :

Currently the robot can only navigate to the brightest light source in a room. It's current operation mode has four major steps: - Scan a 180 Degree Field of "Vision" taking light level readings, and determining the brightest direction of light. - Decide if it needs to turn left, right, or continue moving forward. - Check for collision with an object while moving, if a collision occurs, display the total travel distance on the display - Move forward for 1.5 Seconds and then repeat the process.

Currently I am using Two Futaba FP-S128 Servos (any RC Car Servos would work) one to sweep it's "sensors" form left to right, and one to "stear" the robot.

You can see pictures and more information on my homepage, just follow the lego robot link.

==========
Title : Factory Monitoring System [# 011]
==========
Date : 951120
Author: Paul Willemse
E-mail: pjwill@merlion.singnet.com.sg

Stamp model : BASIC Stamp Rev. D
Code available: YES

Filename : N/A
URL : E-mail author

Description :

The system presently consists of 4 Basic Stamp units. Each monitors up to 5 inputs. The inputs are 'digital' (switches) and/or analog (temp, airflow, current, etc using commercial sensors). All stamps communicate the results via serial mode to a Macintosh (Yes a Mac!) where the results are graphically displayed and monitored. Alarms are set for certain conditions.

The transmission is simple, one way only. Each stamp sends the info at a 'random' interval not exceeding 2 seconds. The message format is fixed, the Mac will throw away any conflicts in case two or more stamps transmit at the same time. BTW this happens very seldom. The max time any stamp can be 'absent' from the chain before an alarm is raised is six seconds (failure, transmission collisons, etc). This is controlled by the Mac.

The 'system' is presently in beta test, the client wishes to expand up to 20 stamps. At that point we will likely use the BS1-IC or BS2-IC on custom boards located around the facility.

Code is available upon request (e-mail) partial, some is proprietory to my client.

==========
Title : Wave to the Cats/Desk Temperature [# 012]
==========
Date : 951121
Author: Paul Haas
E-mail: paulh@hamjudo.com

Stamp model : BS1-IC
Code available: Yes
Filename : See web server
URL : http://hogwild.hamjudo.com/cgi-bin/stamp

Description :

The Stamp has a serial connection to web server, a cardboard hand, a servo motor to move the hand, and a DS1620 thermostat chip to measure the temperature. The web server can request the current temperature or start the hand waving. See the web page for the source code for the temp and the web server.

It's mostly useless. The cats ignore the hand. A few people find it entertaining.

==========
Title : Gamer's Die Roller [# 013]
==========

Date : 951122
Author: Larry Tremblay
E-mail: ltremblay@domus.com

Stamp model : BS2-IC
Code available: N/A
Filename : N/A
URL : N/A

Description :

The Gamer's Die roller is a little thing I am putting together as my first Stamp Project. The Roller allows cumulative rolls of n dice up to 256 sides, so long as the sum does not exceed 99,999,999(!)

It uses two 74HC161 4 bit counters cycling at 1MHz to draw random numbers off of. Input is achieved via a Grayhill model 38 keypad and a 74C922 keypad decoder. Display is on a Siemens PDSP-2111 8 character smart display (5x7 LED characters) fed by two 74HC164 serial to parallel shift registers cascaded so I can use Shiftout to feed 16 bits of control + data off of 2 pins.

The code is very simple, the most exotic part being the random numb-er generation. In a nutshell, it is:

Begin Loop
S = 8 bit number drawn from the counter (random)
if S < (255/N) x N (integer divide, N is number of sides on die)
exit Loop
End Loop

This gets (pseudo) random numbers whose average is not skewed downwards by the counter's max of 256 (i.e. a 100 sided die is not affected by the extra 56 in the count maximum)

Using gamer's dice notation, (5d6 = sum of 5 six sided dice, 3d10 = sum of 3 ten sided dice), the user can input whatever combination they wish, including just 'd6' for one six sider. The keypad I have has removeable keycaps with legends, so I have 0-9 plus 'd' and '=' on them.

As noted earlier, since I am using an 8 bit counter, the maximum die size is 256, although that could be fixed easily by sampling two, three or more times for each die.

Anyhow, that's it. When the code is done and debugged, I'll be happy to e-mail it to any who want it.

==========
Title : Stamp II Serial I/O [# 014]
==========
Date : 951128
Author: John Hansknecht

E-mail: Hansknec@cebaf.gov

Stamp model : BS2-IC
Code available: Yes
Filename : HAL01.bs2 and HAL01.bas
URL : ftp.parallaxinc.com

Description :

A bare-bones demonstation of 2 way serial communications between a
PC running Qbasic and 1 or more Stamp II's.

==========
Title : Voice and CW Fox Hunt Transmitter IDer [# 015]
==========
Date : 951221
Author: Sam Guccione
E-mail: sguccion@outland.dtcc.edu

Stamp model : Counterfeit Stamp
Code available: Yes
Filename : Revision of S. Edwards MORSE program
URL : N/A

Description :

An IDer based upon the MORSE program. Has 4 time delays as well as
a random time delay. Circuitry includes selection of a voice id
using the Radio Shack 10 voice board or the Walden bookstore 10 sec
talking gift card. This is a very simple circuit and program but was
developed by my students under my direction.

May be of interest to someone out there.

==========
Title : Lift (elevator) Controller [# 016]
==========
Date : 951225
Author: Dave Bell
E-mail: dbell@cup.portal.com

Stamp model : Faux Stamp (BASIC Stamp clone)
Code available: Yes
Filename : Upon request
URL : N/A

Description :

A simple control loop monitoring lift Call buttons (with debounce)
and Limit switches, forbidding manual control past limits, and en-
forcing a Stop before reversal of direction. This will be used in
an owner -designed and -built single story platform lift for a home.

```
=============================================================================
Title : Paging with the Stamp [# 017]
=============================================================================
Date : 960104
Author: Kurt Clement
E-mail: kclement@kraft.com
-----------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Yes
Filename : monitor.bas
URL : N/A
-----------------------------------------------------------------------------
Description :

Use the Stamp to monitor several inputs, two temperature and two
contact closures in this application. When inputs go outside set
limits, dial pager and send coded message. Used to monitor power
failures and temperatures for computer and network equipment since
August 1994, running on 9 V power supply from one of the UPS units.

=============================================================================
Title : Switching Sytem [# 018]
=============================================================================
Date : 960109
Author: Alexander Avendano
E-mail: aavendan@aros.net
-----------------------------------------------------------------------------
Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A
-----------------------------------------------------------------------------
Description :

I'm almost finishing a Basic Stamp Based Switching System (Small
Phone system) which I consider very usefull for small companies that
cant'n afford other brands. This is designed with a host computer
which will have a vox-mail and all the functions like big ones to
choose. I'm using BS1-IC's for the extensions process right now.

As soon I have complete it I will give the code away for small
Intelligent Switching phone system up to 2 Lines and 4 Extensions
using the L.C.D serial circuitry for information display. I forgot
to mention that the computer (Host for many processing functions)
will be running under Windows 3.1 and Windows 95, making this way a
usefull computer not only for the phone system but for ithers
application at the office.

Please be free to send me E-mail, about any suggestion.

=============================================================================
Title : Door Entry Card Reader [# 019]
=============================================================================
```

Date : 960110
Author: Ed Buckley/J J Barbarello
E-mail: ed@milinst.demon.co.uk

Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : N/A

Description :

Stamp 1 based version of the Card Reader article by J J Barbello as described in the August 1995 edition of Electronics Now. This version uses the Stamp 1 as a local controller determining the card number and deciding whether or not to allow door opening. Optional serial comms back to a master controller and optional local message readout using an LCD Backpack.

Lots of scope for further enhancement/experimentation. Circuit schematic and listing available.

==========
Title : Telephone Card Reader [# 020]
==========
Date : 960119
Author: Francesco Volpe
E-mail: f.volpe@ee.mu.oz.au

Stamp model : BS2-IC Module
Code available: YES
Filename : TELEMARK.LZH
URL : ftp://ftp.ix.de/pub/elrad/010/

Description :

The BS-II is used to read a German telephone card, which is a smart card. For more details see the German Electronic Magazine ELRAD (http://www.ix.de/el).

The data is transfered via RS232 to any terminal program.

==========
Title : DTMF Decoder [# 021]
==========
Date : 960125
Author: Joe Altieri
E-mail: radioman@banished.com

Stamp model : BS2-IC Module
Code available: YES
Filename : DECODE.BS2
URL : N/A

Description :

A new parallax BASIC Stamp II program for decoding a nine digit DTMF sequence of "Touch Tones" for remote activation/de-activation of any electrical appliance via Ham Radio, radio link, telephones, intercoms, etc.

==========
Title : Ion chamber radiation monitor [# 022]
==========
Date : 960125
Author: Jeffrey L. Rothman
E-mail: rothman@bnlls1.nsls.bnl.gov

Stamp model : BS1-IC Module
Code available: YES
Filename : RADMON12.BAS
URL : N/A

Description :

A Basic Stamp monitors the operation of an ion chamber radiation detector. The ion chamber and related circuitry produce a signal with a frequency proportional to the dose rate. The Stamp measures the frequency and calculates the dose rate and total integrated dose.

The results are displayed on a log scale panel meter and an LCD respectively. The dose rate is also transmitted over RS-232 to a remote PC.

A Front panel button allows the user to reset the total integrated dose. Another button allows the audio alarm to be muted at low dose rates.

==========
Title : Barn Monitor [# 023]
==========
Date : 960203
Author: Lynn A. Roth
E-mail: lynnr@hesston.edu

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author

Description :

The Barn Monitor checks the temperature in 5 rooms of a farrowing house. The temperatures are taken by DS1620 chips.

If the temperature goes outside the limit set by the farmer, the Stamp dials a pager using a 2400 baud MODEM. The same occurs if the power goes out.

```
=============================================================================
Title : Dallas one-wire interface [# 024]
=============================================================================
Date : 960212
Author: Daniel G. Clemmensen
E-mail: dgc@shirenet.com
-----------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.shirenet.com/~dgc
-----------------------------------------------------------------------------
Description :

As part of a furnace controller project, I've interfaced A Stamp II
to a string of Dallas 1820 digital thermometers. The interface
consists of three cheap IC's and some subroutines. A design note and
a demo program are available on the web. I have successfully tested
the interface with a string of twelve 1820's.

I have not yet tested it with other one-wire devices, although I
will update my web site when I do.

=============================================================================

1.5 Credits and other things
----------------------------

Credits should go to all of you who makes this list possible I hope
it suffices to say "Thank you to all who have contributed to L.O.S.A
- we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support
this great products !

If there is anything you think I've missed (or spelled wrong <g>) I
would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@hth.com

Stay tuned,

/Christer

-----------------------------------------------------------------------------

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and PBASIC are trademarks of Parallax, Inc. PIC is a registered
trademark of Microchip Technology, Inc. Other brand and product names
are trademarks or registered trademarks of their respective holders.
-----------------------------------------------------------------------------
```

```
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
>> L.O.S.A is compiled by Christer Johansson, HTH <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

1299. Re: ### KISS on a Baycom?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: Helmut Strickner <hstr@ipswich.gil.com.au>
Message-ID: <Dn20p2.LpF@gil.com.au>
Source record: 107127

Hi

There are a number of KISS drivers around for the Baycom - style modem.

TFPCX
TFX
probably some more that I dont recall off the top of my head.

For NOS use AX25.COM from Pawel Jalocha.

Helmut VK4STR

1300. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <4gcd83$kgf@newsbf02.news.aol.com>
Source record: 107128

In article <slrn4iemgt.4fd.mulveyr@ll.aa2ys.ampr.org>,
mulveyr@ll.aa2ys.ampr.org (Rich Mulvey) writes:

>>>Subject: Re: WTB 6,000 watt linear amp 75 meters
>>>Date: 18 Feb 1996 05:36:37 -0500
>>

And it needs to run off of 12 Volts so I can use it in my Yugo.

1301. Re: NEED GPS INFORMATION MY NEW HOBBY!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb20.151806.6061@ke4zv.atl.ga.us>
Source record: 107129

In article <4gajcn$bu@newsbf02.news.aol.com> rstapestry@aol.com (RStapestry) writes:
>funny- I've built a number of walkie talkies, not loaded or anything, but
>they had good range. I was just hoping to find info.

Yeah, with today's high integration chips, building a HT isn't very
hard. Building a GPS receiver is a bit harder, but again thanks to
high integration chip sets it isn't very hard either. I handled such
a unit at Dayton a couple of years ago at McNasty's. Tom Clark built
it for AMSAT. It's scheduled to fly on P3D. There aren't many parts
involved, but they are very high integration. Motorola, and others,
make the GPS chipsets. You need to add a uP and some software to
make it play.

As you probably know, GPS uses spread spectrum, and the real trick
is to get a sync lock on that and despread it. The chip sets do that
for you. After that you just have to do some housekeeping and number
crunching to get the navigation data into a useful form.

I agree with the other poster, however, in that it is easier and
probably cheaper just to buy a commercial handheld GPS receiver
rather than trying to roll your own. The only reason you might
need to build your own is if you have special circumstances, like
operating *above* the GPS constellation as P3D will. You likely
can't buy the chip set in quantity one as cheaply as you can buy
a Garmin 45. (If you were buying thousands of chip sets, you could
get a huge price break, but at quantity one prices I don't think
you'd save any money.)

Even if you need special features, it might be cheaper to start
with a complete GPS receiver and just modify it to do what you
want. I understand Motorola will sell you the core chip set for
$150 if bought in quantity 100, but you can buy a low end Trimble
or Garmin brand new for $200, or a used Icom or Sony for considerably
less. That way you *start* with a functional unit.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1302. Re: Tunnel diodes: are they any good? If so, any circuits out there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb20.153836.6194@ke4zv.atl.ga.us>
Source record: 107130

In article <4gb2jb$jql@peabody.colorado.edu> tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:
>
>I've inherited some tunnel diodes, and I've heard them mentioned along with
>other things to produce microwaves. However, no issue of QST I have (since
>1990) nor the ARRL UHF/microwave book actually presents any circuits to
>make them do something specific, with component values, etc. Could someone
>point me to such sources? I'm interested in 5.7, 10, and 24 GHz at the
>moments, but if they go higher...
>
>If they have gone wayward for a reason, "the spark transmitters of the
>microwaves," say, then I'd like to hear about that too. Nothing I have
>gives them more than a line or two of "Tunnel diodes can also be used to
>generate microwaves."

Tunnel diodes have pretty much been abandoned since microwave GASFET transistors have become available at reasonable prices. Look in older ARRL Handbooks (mid-70s) for some circuits using tunnel diodes. Typical oscillator circuits would have the tunnel diode mounted in a post cavity resonator so that there's a 360 degree phase shift from the diode to the cavity far end and back, IE halfwave cavity. You just need to adjust diode bias current into the negative resistance region and you'll have an oscillator.

As with most such simple circuits, stability isn't very good, and harmonic and subharmonic oscillations are possible too, IE it sort of is the spark gap of solid state microwave oscillators. You can injection lock one to a stable source, but that's more trouble than it is worth.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1303. Are Ten-Tec Transverters Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: zaax@aol.com
Message-ID: <4gc2gh$i9s@newsbf02.news.aol.com>
Source record: 107131

I would like to hear from anyone that has built a Ten-Tec 6 metre transverter.
How good is the receiver? Would you build one again? Any impressions would be most welcome!

73 Zack Schindler
N8FNR

1304. Re: 'Memory keyer - Public domain code'

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4gc0oo$4ql@abyss.West.Sun.COM>
Source record: 107132

In article <NEWTNews.824750067.16058.jwicklun@mycroftxxx.halcyon.com>,
Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>
>In article <4fvojr$1fp@baleen.fore.com>, <ed@fore.com> writes:
>
>> Well... I pose an idea...
>>
>> Pool a list of desired features, get a group of geeks together via
>> internet, and group write and post the source code, and design and
>> build a public domain keyer... and then make a group article for QST
>>
>> Sound plausable, or am I asking for a democracy in the land of
>> chaos?
>
>Hi Ed, sounds like an interesting project, and maybe something like
>this might get this group doing more that talking (spice things up a
>little). Its been getting a little boring here, and it is a homebrew
>group.
>
>As for the processor, what is the power requirements of the HC11? I
>would think you would want to keep the power low, and would also think
>that the 6805 family might have some lower powered versions available.
>If I remember right, some of that family can also program themselves
>by a simple connection to a PROM.

Look for the lowest cost part with decent availability, not someone's
favorite processor. The Atmel 89C2051 is a 20 pin 8051 processor with
1 or 2 K of on-chip EEPROM. The PIC processors come in a dozen
different flavors.

We really can't tell without doing more of a feature/cost brainstorm
session, but HC11 or 68HC05 or 80C51 might be overkill in power and
cost. I believe it is Wayne Burdick that already supplies a memory
keyer in a PIC for a QRP kit.... maybe he'd make a variant of the
source code PD?

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1305. Re: Are Ten-Tec Transverters Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: Spencer Petri <spetri@e-tex.com>
Message-ID: <4gcro2$sj4@e-tex.com>
Source record: 107133

YES!

1306. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4gcfro$lmn@newsbf02.news.aol.com>
Source record: 107134

In article <4gavt8$j7a@news-f.iadfw.net>, kmiller@airmail.net (Kerry W. Miller) writes:

>PS Yep, he's full of it, but I saw the meter this time, I thought he
>was lying too, had to go see it. Does that make me an accessory?

Only if he sits you on the desk and plugs you in to the back of the radio.
;-)

1307. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <Dn33K8.97F@hpqmoea.sqf.hp.com>
Source record: 107135

Dana Myers (myers@West.Sun.COM) wrote:

: I'm not familiar with LTC Design Note 7, but I'd guess they're
: using the 4046 in some application other than a radio transmitter
: or receiver local oscillator.

I've just had a look at LTC DN7 page 2. I think you're dead right,
Dana.

Fig D is nice, a scope shot of a rising edge showing about 1us of
jitter at an output freq of 6kHz and a ref freq of 60 Hz.
With an RC filter they show about 30us of jitter.

OK, that's quite an improvement, but the 4046 VCO is spectacularly
nasty open loop. Current/voltage/ Capacitor VCOs like RC oscillators
have Q's less than 1

From the text, the thing seems to be a clock multiplier intended to
drive a tracking switched cap filter - presumably to filter a mains freq
signal.

Cheers,
David GM4ZNX

1308. .5Mc up to 12Mc antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: lyle@MadVax.mo.ti.com
Message-ID: <4gd4bk$hsu@superb.csc.ti.com>
Source record: 107136

Hello all. I've got a short wave radio that has a range of 3 to 12Mc.
And it has the AM channels also from .5 to 1.7Mc. But it has very very poor
reception. Almost no channels come in. I guess that it is my antenna that
came with it is very poor for these long wave lengths. I have lots of
acreage and want to make a long wire antenna to hook to it. I need some
help here on the best design to pick up all frequencies in this range.
Could someone help me here. Could I get a good ferrite core antenna?
or use different rhombic lengths/ or straight wire. HELP! It's got to be
cheap. If two or three different antennas are needed let me know and I can
make them selectable when I switch to AM or Short Wave or go up the range
in short wave. Please give me full details.

Hoping to hear from someone,
There is lots of stations on AM and Short Wave with good info if I could
just get them
Lyle Murphy

1309. Re: NE602 source drys up

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4gdk0f$f53@abyss.West.Sun.COM>
Source record: 107137

In article <4gdcou$qf0@solaris.cc.vt.edu>,
Ben E. Cline <benjy@benjy.cc.vt.edu> wrote:
>There was talk here a while back about Digi-Key selling
>NE602s. They are out of stock now and don't plan to
>restock. (If someone else has already noted this here,
>sorry for the extra post.)
>
>73, Benjy

Oh no!!!! At least you can still buy discrete JFETs and bipolar transistors, build an oscillator, and either build or buy a diode ring mixer. If you really want gain in front of the mixer, you can use another discrete transistor to build a preamp....

;-)

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1310. new rigs now tested with Wilderness Radio's KC1 keyer/counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-2002961157570001@burdick.interval.com>
Source record: 107138

In addition to the list of rigs in the current manual, the KC1 keyer/freq. counter has now been successfully installed in the following rigs:

"A Small High-Performance CW Transceiver for 20m," Nov'95 QST, by Rick Campbell, KK7B (installed by Dave, KE6ZBZ)

MFJ 9420 w/CW adapter (Mike, AC6JA)

OHR Explorer I (Tom, WA1GUV)

OHR Explorer II

NorCal Cascade (Rob, WA3ULH)

* * *

The original list of rigs includes:

NorCal 40 (all versions), Sierra (NorCal), Heathkit HW8 and HW9, SWL XX-40 (Small Wonders Labs), OHR-400 (Oak Hills Research), and the Gary Breed transceiver (A&A kits and 624 kits).

* * *

If you know of others not on this list, please send them to me. I will be incorporating instructions for all of the new rigs in the next release of the KC1 manual.

The KC1 is a subminature (2.5 x 0.8") universal Iambic keyer and displayless frequency counter (3-digit Morse code output) for QRP rigs. For more info contact Bob Dyer, KC6VIO at 415-494-3806.

73,
Wayne
N6KR

1311. Re: building a packet interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: jessica <jhoo219@crown.net>
Message-ID: <4gd8ie$ns6@kiwi.crown.net>
Source record: 107139

sure you can use the 64 modem on the ibm..
i use baycom packet software... here..
the ibm rs 232 put out +12volts and -12 volts...
i use a in94 to block the -12 volt going to the tx.line
and the ptt... the rec.. output is only 5 to 8 volts
most of the time from the modem..on the 64...
so just hoop it to com. port on the imb...rs 232..port..
and it should work ok....
let me know if i can help any more... ???

1312. QEX DEC 95: PHEMT preamp for 9 cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: Chabas Alain <jachabas@pratique.fr>
Message-ID: <4gdbok$h4b@s3.iway.fr>
Source record: 107140

Did you read this very interesting article from DJ9BV.

Has anybody an idea of the intercept point IP3 for such an amplifier. I couldn't find any information in the NE42484A data sheet.

Thank you and 73 from Alain F6DYA

1313. NE602 source drys up

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: benjy@benjy.cc.vt.edu
Message-ID: <4gdcou$qf0@solaris.cc.vt.edu>
Source record: 107141

There was talk here a while back about Digi-Key selling
NE602s. They are out of stock now and don't plan to
restock. (If someone else has already noted this here,
sorry for the extra post.)

73, Benjy

--
Benjy Cline, AC4XO, Ph.D.
Virginia Tech Computing Center
benjy@benjy.cc.vt.edu
http://benjy.cc.vt.edu:1951/~benjy/

1314. Re: need info..sorenson power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-200296133638@160.205.101.24>
Source record: 107142

In article <NEWTNews.824751011.19140.whowell@epix.net>, whowell@epix.net wrote:
>
>
> i need any literature,schematics for a dcr10-40b sorenson power supply.
> made by raytheon co.
> email whowell@epix.net
> call 610 588 4463
> de bill n3ipj

Bill, you might try calling Sorenson @ either (800) 525-2024 or (217) 379-2171 and see if you can order a manual from them (note: the phone #s above were good in mid-1993, when I called them about a different power supply). If you strike out w/ them, e-mail me because I _think_ I have somewhere some info on the DCR-B series power supply. Oh, and if you didn't know already, your Sorenson is a 0-10 V, 0-40 A supply.

TGB

\\ The opinions expressed herein are my own. //

1315. Re: building a packet interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <312A059D.75C8@lanl.gov>
Source record: 107143

Over 50% of PC's will work with an unmodified Digicom (the actual name for the German TNC-emulator for the Commodore series) modem, all you have to do is wire in a serial connector that fits your PC, and Baycom software for your PC. For a schematic of the necessary connections you can view my web page listed in my signature, page down until you get to the packet radio links.

--

|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
HTTP://nis-www.lanl.gov/~jdport/

1316. Help Please !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-20 00:00:00 UTC
From: kuehn@hera.cc.bellcore.com
Message-ID: <4gdkrt$3de@hera.cc.bellcore.com>
Source record: 107144

I need the following transistors:

MJH16010A - 2pcs. probably Motorola

ZTX650 - 4 pcs. & ZTX750 - 4 pcs. - probably Zetex ?

I tried Mouser, Digikey, no luck. Digikey can order
ZTX 650 and 750 for me but it would take 18 weeks!

Will Motorola or Zetex (?) entertain orders for
such miniscule quantities ?

Any ideas ????

Thanks - asis VU2MKI

1317. Re: Ignition noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: mgkepner@facstaff.wisc.edu
Message-ID: <4gdver$2hf8@news.doit.wisc.edu>
Source record: 107145
Cross-posted to: sci.electronics.design,rec.radio.amateur.misc,rec.radio.amateur.homebrew

paulc@esslink.com (Paul A. Cianciolo) wrote:

>The vehicle I am driving is a Volkswagen Vanagon, 1984 with electronic
>ignition and fuel injection. The noise is coming from the ignition
>system it is very easy to determinr when each plug fires. I may try
>bonding parts of the vehicle although there are not a lot of
>unconnected parts. I could try the doors and rear gate .

Properly setup VW's are generally pretty good in this respect.
I suggest you check three things: distributor rotor, spark plug
connectors, and your antenna cable.

Use only OEM Bosch rotors and spark plug connectors. The rotor should
have about 5K Ohms built into it and the spark plug connectors should
have about 1.4 K Ohms. Cheap replacements lack the resistive elements
that damp the oscillations in the spark.

Check your antenna cable to verify that its shield is continuous to
the body of the car. You must unplug the cable from the radio to
check this. It is common for the cable to become disconnected
(corrosion, I assume) from the body at the base of the antenna.

Hope this helps.

Jim

Melissa Kepner Jim Adney
mgkepner@facstaff.wisc.edu jradney@njackn.com
Laura Kepner-Adney
Madison, Wisconsin

1318. Re: File formats to download

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: cj@hth.com
Message-ID: <4ge356$g0p@prometheus.algonet.se>
Source record: 107146
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

Hi Rit,

ritk@aol.com (Rit Keiter) wrote:

>Recently, I was so impressed with Adobe's Acrobat PDF (Portable
>Document File) format, that I bought 300 shares of their stock. I
>also purchased their $125 Adobe Exchange for win that produces .pdf's
>from any app that can print to a windows printer. Portable means all
>platforms; Windows, Macs, Unix.

I must say that I agree 100% even if I didn't bought any shares in
Adobe. The PDF format is *GREAT* for technical publications and now
when the Netscape plugin is avaiable I think it will become more and
more common.

>I discovered Acrobat by visiting the Maxim Integrated Products site
>(search on maxim). They have a link to the free reader download. I
>downloaded a 10 page Maxim data sheet in 45 seconds at 14.4 K. I was
>astounded by the quality and detail of the line art and the tiny
>fonts. It took 4 minutes to print on an old HP laser III without
>Postscript capability. May be much faster with Postscript printers.

Yes, many of the Semiconductor manufacturers have their datasheets and
application notes available in PDF and I like to be able to get new
tech info right from the net and maybe someday my crowded bookshelfs
will dissapear :-)....

>I have used Exchange on a 255K WordPerfect document containing several
>Acad generated line dwgs, to produce a 110K PDF that prints with no
>perceptible degradation.

The PDF format has "builtin" compression and it's quite effective as
you just mentioned. Good luck with your stocks ;-)...

Regards,

/Christer

-=-=-=

1319. Question about a Noise Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: Elvin <ewop@ix.netcom.com>
Message-ID: <4geai9$4k3@cloner3.netcom.com>
Source record: 107147

Does anyone know know how to anything about a solid state noise source made by Microwave Semiconductor (Corporation?) --MSC, model number MC7023? My main question is that kind of DC voltage and polarity to put on the BNC connector? Thanks in advance.

---Elvin
ewop@ix.netcom.com

1320. Mods for Radio Shack PRO-2020 Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: kmadsen@mail.qb.island.net
Message-ID: <4gdru5$bk8@nash.qb.island.net>
Source record: 107148

I'm looking for Frequence mods for a Radio Shack PRO-2020. E-MAIL me
Ken...

kmadsen@qb.island.net

1321. Re: ### KISS on a Baycom?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: edwint@greenie.com
Message-ID: <312a704e.181@greenie.com>
Source record: 107149

In article <Dn20p2.LpF@gil.com.au>, Helmut Strickner <hstr@ipswich.gil.com.au> writes:

> There are a number of KISS drivers around for the Baycom - style modem.

> TFPCX
> TFX
> probably some more that I dont recall off the top of my head.

> For NOS use AX25.COM from Pawel Jalocha.

Thanks for your helpful infomation - but I'm to understand baycom
style modems don't work on unix(and it's varients) based systems
due to the way they operate.

I haven't seen any KISS drivers for the Baycom for unix.

73 de 9V1ZY

--
EdwinT@greenie.com -[Standard Disclaimers Apply]-

Now Faith is a substance of things hoped for,
the evidence of things not seen. [Heb 11:1]

As Email can be altered electronically,
the integrity of this communication is not guaranteed.

1322. Radio Database Program LW, MW, SW coverage for YOU.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: Charles Bolland <chuck@mail.flinet.com>
Message-ID: <4gduns$sio@news.flinet.com>
Source record: 107150
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

FRIENDS,

If you would like a free copy of a radio database program that covers longwave, mediumwave, and shortwave with at least 4,000 of records, send your NAME, POSTAL ADDRESS, and EMAIL address to chuck@flinet, and I will return the program to you via EMAIL.

The program is not up to date! It is a program used during 1994 and hasn't be updated since. However, many of the records are still current for stations that do not change every quarter.

The program is good until June 6, 1996. After that it will not function.

Hope to hear from you and don't forget your Postal Address for registration and future information via mail..

All addresses will be kept confidential!

Chuck

chuck@flinet.com

1323. Re: NE602 source drys up

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4gee00$45m@news3.cts.com>
Source record: 107151

Ben E. Cline (benjy@benjy.cc.vt.edu) wrote:
: There was talk here a while back about Digi-Key selling
: NE602s. They are out of stock now and don't plan to
: restock. (If someone else has already noted this here,
: sorry for the extra post.)

I picked up a couple last week at RF Parts, San Marcos CA.
See ads in QST, etc.

1324. QRP Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: kmiller@airmail.net
Message-ID: <4gf38m$gud@news-f.iadfw.net>
Source record: 107152

Ok, I finally got them all finished. The schematics are at John Cunliffe's web page:

http://www.frontiernet.net/~cunliffe

If you have problems, drop me a note, I have all the original articles. Have fun!
73,
Kerry Miller
kmiller@airmail.net

1325. Need 6.5536 mhz crystal

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: username@shore.net
Message-ID: <4gf9n0$6mf@shore.shore.net>
Source record: 107153

If you`ll sell one, email squid@shore.net. I`ll only pay in cash, must be in U.S. No more than $5.

squid@shore.net

1326. Re: 'Memory keyer - Public domain code'

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: gcouger@master.ceat.okstate.edu
Message-ID: <4ge1a0$fb@news.cis.okstate.edu>
Source record: 107154

In article <4gc0oo$4ql@abyss.west.sun.com>,
Dana Myers <myers@West.Sun.COM> wrote:
>In article <NEWTNews.824750067.16058.jwicklun@mycroftxxx.halcyon.com>,
>Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>>In article <4fvojr$1fp@baleen.fore.com>, <ed@fore.com> writes:
>>> Well... I pose an idea...
>>>
>>> Pool a list of desired features, get a group of geeks together via
>>> internet, and group write and post the source code, and design and
>>> build a public domain keyer... and then make a group article for QST
>>>
I have a keyer built on a New Micro's 68HC11 board. The memories are
programed via rs232 and has 6 memories implemented several more could be
implemented. It is written in the FORTH that comes resident on New Micro's
chips.
I also have a start on a keyer in C for about any thing that will run C. It
only sends from memory.

Both systems use a port hooked to a pizo speaker for side tone. I originaly
did this for output from the 68hc11 so I could debug code.

I would be willing to release them for non commercial use to anybody that
wants them on an as is basis. I will not support users for money , I sure
won't do it for free.

Gordon AB5DG
Gordon Couger
Biosystems & Agricultural Engineering. 114 AG Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu 405 744 8392 day 625-2855 evenings

1327. Re: Heathkit Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4gfahk$5a5@kocrsv08.delcoelect.com>
Source record: 107155

The HW-100 and 101 were originally designed and will work just as well with 6AU6's. Because of the series/parallel arrangement that Heath used on the filaments and because the 6HS6 heater is 450ma @ 6.3V vs. the 300ma of the 6AU6, you need to change both of the 6HS6 units at the same time. They are the rf and first receiver mixer tubes as I recall. If you look closely at the schematic you will probably note that the schematic still shows the 6AU6.

By the way you may want to check the 33K ohm plate resistors on the 12AU7 carrier oscillator. They generally are found to have drifted very high in resistance - up to 100k to 400k ohms. The output to the ring modulator eventually suffers, affecting available drive on one or the other sidebands!

73 K9JDU

1328. Re: building a packet interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: lyle@MadVax.mo.ti.com
Message-ID: <4gfamb$bh2@superb.csc.ti.com>
Source record: 107156

What is this baycom stuff?

1329. Re: Question about a Noise Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: rod@border.com
Message-ID: <Dn4sq5.564@janus.border.com>
Source record: 107157

>Does anyone know know how to anything about a solid state noise source
>made by Microwave Semiconductor (Corporation?) --MSC, model number
>MC7023? My main question is that kind of DC voltage and polarity to
>put on the BNC connector? Thanks in advance.
>
>---Elvin
> ewop@ix.netcom.com

Are you building a noise bridge or noise source for calibrating noise facto of preamps or receivers??

Would be interested in your experiences.

Rod, VE3INE

1330. Re: Tunnel diodes: are they any good? If so, any circuits out there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4gflu3$2de@news.ios.com>
Source record: 107158

In <4gb2jb$jql@peabody.colorado.edu>, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:
>
>I've inherited some tunnel diodes, and I've heard them mentioned along with
>other things to produce microwaves. However, no issue of QST I have (since
>1990) nor the ARRL UHF/microwave book actually presents any circuits to
>make them do something specific, with component values, etc. Could someone
>point me to such sources? I'm interested in 5.7, 10, and 24 GHz at the
>moments, but if they go higher...
>
>If they have gone wayward for a reason, "the spark transmitters of the
>microwaves," say, then I'd like to hear about that too. Nothing I have
>gives them more than a line or two of "Tunnel diodes can also be used to
>generate microwaves."
>
>Thanks,
>
>Bruce, N6URH

Wow! Tunnel Diodes are Cool!
Seriously Bruce, they are kinda slick. They act like a series resonator. Most of them were very low power, milliwatt range. They were invented in 1959 by Dr. Leo Esaki who was an IBM Fellow at the time. They were weird in that they operated in 'negative resistance regions.' The biggest thing you have to watch out is the power applied to them. I seem to think that they didn't like anything above 1.2 volts. One of the more popular ones was I think a 1N2939. Don't hold me to it, this 'old' brain has turned a lotta cycles since then. If you can find and old General Electric Transistor Manual, they had experimenters circuits with TD's Texas Instruments also built them. I'd love to get my hands on one of them for my 'old semiconductor' collection. I've got a 'in the box' CK722 and 2N107. Whew, those are old! The 2N107 had a 'evacuation tube' on top to make you think it was a little vacuum tube.
I did a 'Science Fair' project centered around the Tunnel Diode in 1961 and won first place at the Chicago Museum of Science and Industry with that project, so you made me laugh when I saw your post! I'll look around for some old circuits, by the way they also act like an astable multivibrator (flip flop) and are resonant across a freq range that will have you scratching your head.

I had a neighbor that drove me crazy, and I built a little 'shoop shoop' xmitter that ran on a single solar cell and a nicad battery, and put it up in his gutter one night, that guy bought 3 TV-Stereos trying to find one that wouldn't go 'shoop - shoop' whenever he turned on his set. Of course the low power only effected him..... The crazy thing pranks high school nerds do!!!!!!!!!!!!!

73's Jim WD9AHF

1331. Re: Repeater controller speech synth chip?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4gf7k5$fgi@cloner2.ix.netcom.com>
Source record: 107159

In <4fgp6h$719$3@mhafn.production.compuserve.com> Chris Boone
<72732.2610@CompuServe.COM> writes:
>
>The typical chips are the Texas Instruments TMS5220 (old series)
>or the TI TMS50C30 (new series) and associated eproms with the
>data in them...
>
>73
>Chris
>

I believe Newark Electronics still sells the National Semiconductor
Digi-Talker Chip along with a development kit for adding more words

1332. FS -- HAMMARLUND AIR-VARIABLE CAPACITORS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: Bill <debral@falcon.cc.ukans.edu>
Message-ID: <1996Feb21.102553.114489@kuhub.cc.ukans.edu>
Source record: 107160

HAMMARLUND MINIATURE AIR VARIABLE CAPACITORS

::::::::::::::::::::

TYPE APC

Compact, hi-quality variables. Isolantite base. Screwdriver
or hex-wrench adjust.

APC-25 3.0 - 25 mmf 10 available
APC-140 6.7 - 140 mmf 3 "

TYPE MAPC

Midget padding, trimming and general purpose capacitors similar
type APC but smaller. Ideal for small space applications. Gap
.0135 inch. Rotors and stators are nickle-plated brass.
Nickle-plated beryllium copper wiper contact. Tapped (4-40
thread) brass studs in Steatite base permit mounting without
grounding rotor. Tested at 600 volts rms, 60 cps. Slotted
shafts for screwdriver or hex wrench.

MAPC-75 3.9 - 75 mmf 7 available
MAPC-25 2.6 - 25 mmf 18 "

TYPE ???

Identical in size and shape to the type APC, but have military
part number. Rotors and stators are silver plated (tarnished).
Please note that capacitance ranges and values for this
particular group are APPROXIMATE, subject to the accuracy
of my RLC tester.

922-0004-00 2.5 - 30 mmf 10 available
CA-290 3.5 - 60 mmf 8 "

::::::::::::::::::::::

Would anyone out there care to make an offer on these little jewels?

73s

Bill
AA4FM / 0

1333. Re: Tunnel diodes: are they any good? If so, any circuits out there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4gfkmq$2de@news.ios.com>
Source record: 107161

In <4gb2jb$jql@peabody.colorado.edu>, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:
>
>I've inherited some tunnel diodes, and I've heard them mentioned along with
>other things to produce microwaves. However, no issue of QST I have (since
>1990) nor the ARRL UHF/microwave book actually presents any circuits to
>make them do something specific, with component values, etc. Could someone
>point me to such sources? I'm interested in 5.7, 10, and 24 GHz at the
>moments, but if they go higher...
>
>If they have gone wayward for a reason, "the spark transmitters of the
>microwaves," say, then I'd like to hear about that too. Nothing I have
>gives them more than a line or two of "Tunnel diodes can also be used to
>generate microwaves."
>
>Thanks,
>
>Bruce, N6URH

1334. upd7800 Dinosaur

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: "Peter Trapp"
Message-ID: <4gfs4a$lul@ddi2.digital.net>
Source record: 107162

I am in need of a crossassembler for the NEC upd7800 microprocessor
ie: ASM87-D52 no longer avaliable from NEC. Or, an op-code instruction
set listing. Any help or advice you could offer would be greatly
appreciated.

--
****
* Peter Trapp (KD4CN) alpha10@digital.net *
****

1335. Re: PLL loop filter questions and idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4gfeg7$646@tempo.univ-lyon1.fr>
Source record: 107163

Eric M. Brombaugh (emeb@indirect.com) wrote:
: > Just a few thoughts and questions. BTW, anyone have a good VCO design for
: > 60.7 to 64.7 MHz? :)
: You might want to check out Motorola App Note AN980 and the data sheet
: for the MC3362 for some tips on such things. The MC3362 has a built-in
: oscillator and varactor diode which work up to 180 MHz, and I have seen
: 40m designs using it as well.

Yuck.
It seems that every IC I know has a lot of phase noise and 3362 is no
exception.
The best VCO remains a discrete LC type.
Depends on what you're planning, though. On HF, it is surely not worthy
boring oneself with that kind of considerations.
At 1296 MHz, it is another story... :-)

Vincent, f5rcs
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

1336. Re: Ignition noise reduction

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: Siegfried Rambaum <siram@light.lightlink.com>
Message-ID: <Pine.SUN.3.91.960221131300.16876B-100000@light.lightlink.com>
Source record: 107164
Cross-posted to: sci.electronics.design,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In our county, I have seen some stickers "NEED HELP - CALL YOUR SHERIFF". This might seem a bit farfetched for your problem, but think of it. Those guys drive in cars, and they are radio equipped. Just call your local office and ask your way through to the guy in charge for maintaining the cars. That guy should know all the tricks about grounding. And chances are, it might be a ham, too :)

At least, it wont hurt to try it that way.

On Thu, 15 Feb 1996, Paul A. Cianciolo wrote:

> Hello all
>
> Has anyone ever done any work to quiet down the ignition system (spark
> impulse noise) in a gasoline powered vehicle?? I wonder if one could
> use large ferrite beads to choke off the spectrum of the spark from
> radiating off the wire at the frequencies of interest. 1 mhz and
> above? I have done a lot of grounding , and am using resistor plugs
> and wires.. Are there any shielded wire kits out there?

1337. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.61.0027F222@azstarnet.com>
Source record: 107165

In article <4gf9co$65e@usenet.continental.com> Paul Christensen
<paulc@jax.se.continental.com> writes:
>From: Paul Christensen <paulc@jax.se.continental.com>
>Subject: Re: WTB 6,000 watt linear amp 75 meters
>Date: 21 Feb 1996 14:14:48 GMT

[snip]

>Actually, I've been giving serious thought to the new Henry 3K Ultra. A
>colleague of mine recently purchased the 8K Ultra and uses a Yaesu
>FL-7000 amplifier after his TS-940 as an I.P.A stage. The 8K's 3CX3000A7
>requires *at least* 200 watts of excitation to really give the plate a
>workout <g>.

I have a (nameless) friend who has an 8K. I believe he uses about 400W of
drive.

>Have you had a chance to review the circuit of either amplifier? I am
>particularly interested in its efficency on 160M. On the surface, it
>looks like the last of the commercially produced real-man's amateur
>amplifiers.

I've had a look inside the 8K, but actually didn't check out the schematic. It
uses motor tuned roller inductors and homemade relays to switch in fixed
capacitors. These (relays) have been a real pain in the butt for him as the
open contacts tend to arc over. This then explodes the capacitors that get
connected into the circuit via the arc. A lot of polishing and radiusing have
been done to minimize corona, but I believe the fundamental problem is just
not enough spacing on the open contacts.

FWIW, Wes -- N7WS

1338. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: Paul Christensen <paulc@jax.se.continental.com>
Message-ID: <4gf9co$65e@usenet.continental.com>
Source record: 107166

>It takes a lot more than a tiny little girly whimp like an 8877 (or a >even a pair of those little sissies) to do 8 kW! It takes a =
man sized >amp with some real hair under it's arms.
>
>73 Tom.

Damn Tom! I never thought of my Alpha 77DX amplifier as a weak-performing sissie! And what of those 3CX800-based pansie amplifiers?

Actually, I've been giving serious thought to the new Henry 3K Ultra. A colleague of mine recently purchased the 8K Ultra and uses a Yaesu FL-7000 amplifier after his TS-940 as an I.P.A stage. The 8K's 3CX3000A7 requires *at least* 200 watts of excitation to really give the plate a workout <g>.

Have you had a chance to review the circuit of either amplifier? I am particularly interested in its efficency on 160M. On the surface, it looks like the last of the commercially produced real-man's amateur amplifiers.

-Paul, N9AZ

1339. HF receive for Yaesu FRG9600??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: "Michael G. Reiney" <mreiney@hevanet.com>
Message-ID: <4gg17t$qma@vista.hevanet.com>
Source record: 107167
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Is/was there available a HF receive option to the Yaesu FRG9600?
There's a blank spot on the board for the module. The software and PLL are set up to receive from zero to 999 MHz. if you use 73 MHz. first IF and high side LO injection.

Has anyone ever tried to build such an option?

Anybody interested in working on such an option? Except for the availability of the Xtal to get from 73 MHz. to 45 MHz. it should be pretty trivial.

miker

1340. Ideas on a power antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: hillgen@remus.rutgers.edu
Message-ID: <4gg0i6$qat@remus.rutgers.edu>
Source record: 107168

Here's my idea. I have a Lincoln Continental that I'm absolutely in love with and I really would like to have my 2m radio in it but I'm not too eager to slap a mag-mount on it or even (gasp) drill holes in it so i have an idea for a compromise. How feasable would it be to build some sort of matchbox so that I could run realtively low power (50 watts or less) at good SWR through the power antenna used for the FM stereo. I figure that if it works, I'd mount a second in the fender and it could retract out of the way when not in use. I figure that it would have a good ground plane but how would I achieve a good match? All advice appreciated! If this idea doesn't work out, anybody have any others for a rather inconspicuous antenna?

Thanks!
Jay
N2OTK

1341. info NORCAL QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: Rick Perry <kg7a@wolfenet.com>
Message-ID: <312BF14E.506E@wolfenet.com>
Source record: 107169

Does anyone out there know where I can get info (cost-where to order etc.)on the NORCAL QRP 75&20 SSB xcvr. I've seen one and it really looks interesting. TNX

Rick KG7A

1342. Re: Tunnel diodes: are they any good? If so, any circuits out there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-21 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <312BE838.1188@jpaw.com>
Source record: 107170

Somewhere in my collection I have an FM receiver that used a tunnel diode as a local oscillator and mixer. I believe the circuit came from the RCA tunnel diode handbook, but I forget. The IF was roughly 300 kHz and used about 4 stages of 2N1308 current switching pairs as limiters. The detector was a pulse averaging circuit. A one shot fired with a fixed width pulse at every zero crossing and the audio was obtained by passing the pulse through a low pass filter. It actually worked pretty well considering tthat it only had one inductor in the whole thing. I do remember that it was susceptible to interference from AM stations idf the antenna lead got too long. I just used the classic twin-lead folded dipole tacked to the wall. It was the source of background music in an electronics lab I worked in circa 1963.

de K9GXC, Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: http://www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

1343. Re: ### KISS on a Baycom?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Helmut Strickner <hstr@ipswich.gil.com.au>
Message-ID: <Dn5Hzx.76x@gil.com.au>
Source record: 107171

edwint@greenie.com (Edwin Teh) wrote:
>In article <Dn20p2.LpF@gil.com.au>, Helmut Strickner <hstr@ipswich.gil.com.au> writes:
>
>> There are a number of KISS drivers around for the Baycom - style modem.
>
>> TFPCX
>> TFX
>> probably some more that I dont recall off the top of my head.
>
>> For NOS use AX25.COM from Pawel Jalocha.
>
>Thanks for your helpful infomation - but I'm to understand baycom
>style modems don't work on unix(and it's varients) based systems
>due to the way they operate.
>
>I haven't seen any KISS drivers for the Baycom for unix.
>
>73 de 9V1ZY
>
>--
>EdwinT@greenie.com -[Standard Disclaimers Apply]-
>
> Now Faith is a substance of things hoped for,
> the evidence of things not seen. [Heb 11:1]
>
> As Email can be altered electronically,
> the integrity of this communication is not guaranteed.
>
>ï¿½
>

Hi Edwin,

You did not mention in your first posting that you want to use the Baycom
modem on a *NIX system.
Of course the ax25.com driver can only be used under DOS.
It takes quite a bit of CPU power to use the driver due to its function
of bit timing etc.

There is possibly a driver for Baycom modem out there which runs under
LINUX but I dont know. Your best bet is to put a posting in the .linux
newsgroups.

What is your reason to run TCP/IP on a UNIX platform, there is a lot of
programmes available which run on DOS and can do all you need.

If you need a unix platform and want to use the Baycom modem why dont you use a low cost PC 286/386 as front end and network it to your unix machine using TCP/IP?

To get more response I would also suggest to use the more appropriate newsgroup rec.radio.amateur.digital.misc, there are far more people with the knowledge required to help you reading your postings. Most computer guys are not really "into" homebrew.

73 de Helmut VK4STR

1344. MOSFET X-Ref: help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: zimmie@gti.net
Message-ID: <4ggmnn$6ia@gti.gti.net>
Source record: 107172

Recently an audio amplifier of mine ceased to work. Upon smelling
fried semiconductor, I opened the case and found two of the power supply
FET's fried. I assume they are MOSFET's since the company boasts of it
being a mosfet amp.

All four (there are two banks of two) FET's are the same;
however, I cannot find any cross-referance to the number on them. There
is an emblem on the case (TO-220) that appears to be "ST" in reverse
text, followed by the number 9448. There is also a number, P30N06,
towards the bottom of the case. I may be wrong, but from following the
circuit, these devices seem to be N-channel. Although it would be
bennificial to try to track down the cause of the failure, I would like
to try replacing these devices first, if the cost is not high. I would
greatly appreciate it if anyone can help me find these devices or give me a
cross-ref part number.
73
jeff

1345. KENWOOD TM-251A MODS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: wa4ucf@pcc-uky.campus.mci.net
Message-ID: <4ggs2q$fd5@ns.campus.mci.net>
Source record: 107173

i NEED ANY MODS FOR THE KENWOOD TM51-A 2 METER RIG.

warucf@pcc-uky.campus.mci.net

1346. Re: Need MOD for Kenwood TH251a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: subbustr@whidbey.net
Message-ID: <4ghus4$rq7@whidbey.whidbey.com>
Source record: 107174

Only mod I have iz...

- Remove diode D416

subbustr@whidbey.net

1347. Re: Are Ten-Tec Transverters Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: pauls90212@aol.com
Message-ID: <4gh330$k5@newsbf02.news.aol.com>
Source record: 107175

I have worked a number of hams using the Ten-Tec transverters. They all sounded quite good and the owners really liked them.

- Paul, N6DN

1348. Re: Schematics going to a web page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: jkesling@hypnos.norden1.com
Message-ID: <4gh3s5$eu8@news1.channel1.com>
Source record: 107176

Jay Craswell (73016.27@CompuServe.COM) wrote:
: Hi Kerry, there has been a lot of talk about posting schematics on the net.
: Some of the talk has been how (what format) some has been a lot of bandwidth
: of the legalities. I'm more interested in the how. In my mind a schematic
: should be in a machine readably format that can be "used". So not in GIF,
: TIFF etc type "Paint" formats. Sure you get the info from one place to another
: but if you send me a GIF file of a really neat QRP rig that I want to build
: I start by reentering it from scratch. Thus I term all paint type files as
: Engineering Napkins. You know, like in the old days when the CAD operator
: was a draftsman and the engineer was not involved in that stage. A better
: approach is to use some electronic format that includes the parts, connections
: and can create a netlist. One other desired feature is ASCII format so we
: can send it back and forth without UUEncoding etc. My (highly Jaded) view
: is to use CIRCAD. It meets all of the above and the program also works with
: OrCAD, Tango, Protel, ACAD and other files. The demo is free so everyone
: can view files. The demo also lets you write (aprox 32K) files so we can

I've never heard of the programs mentionied above, are they all DOS/Windows
programs.

I believe any format used should be universal, and not limited to a
particular operating system or machine. Are all/any of the programs
mentioned above available for DOS, Windows, Mac, Unix, Amiga, etc..
If not DON'T USE 'EM! There are hundreds of thousands of users on the
internet that have no desire to use MS-DOS or Windows.

If there is no universal format for this kind of information then the
best solution would be to stick to the "universal" graphics formats.
At least we ALL can use them.

: all exchange small files cheaply. So, thats my 2 cents worth. Thanks for
: the new WEB Site!
: --
: 73, Jay WB0VNE - AAV5TH

And that's my 2 cents worth.

73 - John - WA8ZGO
--
jkesling@norden1.com

1349. Simulating old valves/tubes with FETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: mda@cam-orl.co.uk
Message-ID: <4gias8$2m5@lyra.csx.cam.ac.uk>
Source record: 107177
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

```
--
I am looking for advice on FET based equivalent circuits to replace
old valves/tubes. In particular I have a National HRO-M which uses
several 6C6. What are the most important characteristics that need
to be reproduced?
-------------
Mike Addlesee
```

1350. Re: File formats to download

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.825010730.11221.jwicklun@mycroftxxx.halcyon.com>
Source record: 107178
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew

In article Christer Johansson writes:

> I must say that I agree 100% even if I didn't bought any shares in
> Adobe. The PDF format is *GREAT* for technical publications and now
> when the Netscape plugin is avaiable I think it will become more and
> more common.
>
Only one caution; the first time that I downloaded a large datasheet
using pdf, my system warned me that it was possible to imbed macros
and viruses in the pdf documents that could disrupt your system - and
therefore to only download documents from sources that you trust.

I don't know much about Acrobat and the pdf format so I can't verify
the accuracy of the warning, but I have no reason to doubt it. Other
than that caution, I agree it does result in very nice looking
documents and in more compact form than postscript.

73 de KI7RH

1351. Need Recommendation for DSP Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.55.312CB9CE@ornl.gov>
Source record: 107179

I need a recommendation for a compact DSP unit for 2.7 KHz Bandwidth SSB transceiver only. I thought about robbing a Radio Shack unit of the components needed just for my homebrew application.

Any recommendations for DSP chips which already have the code in them and I can design around them?

Danny Britton
qb7@ornl.gov

1352. Re: NE602 source drys up

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4giobq$a4u@globe.indirect.com>
Source record: 107180

>> Ben E. Cline (benjy@benjy.cc.vt.edu) wrote:
>> : There was talk here a while back about Digi-Key selling
>> : NE602s. They are out of stock now and don't plan to
>> : restock. (If someone else has already noted this here,
>> : sorry for the extra post.)
>>
>> I picked up a couple last week at RF Parts, San Marcos CA.
>> See ads in QST, etc.

A company here in Scottsdale stocks a great many RF-related ICs and some transistors, and their customer service is superb. They're called DC Electronics, on Scottsdale Road. (I don't have an address or phone for them here at the office, but they're in directory assistance.) By all means get their catalog. I've bought most of my NE602s from them, as well as the Motorola RF chips like the MC3362 and MC2833.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

1353. Re: building a packet interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <312C9863.5133@lanl.gov>
Source record: 107181

BAYCOM refers to software that allows a PC to be used as a Terminal Node Controller (TNC) for packet radio communications. All functions except tone-to-digital (modem) functions take place inside the computer itself, thus requiring a relatively simple and inexpensive modem to interface the radio to the PC. This software was originally developed by the German authors for the Commodore 64/128 machines which was called Digicom.

--

|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
HTTP://nis-www.lanl.gov/~jdport/

1354. Comb and interdigital filters for diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4gho2f$51t@tempo.univ-lyon1.fr>
Source record: 107182

Hi,
do you think that a diplexer such as :

- Having less than 1 dB of insertion loss at 1297 MHz.
- Having more than 80 dB of attenuation at 1291 MHz

can be built using "standard" (not microstrip, but with rods) comb or
interdigital filters ?

A cavity filter costs more than $750, it's too expensive for me.

THX et 73
Vincent

--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

1355. Re: WTB 6,000 watt linear amp 75 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Jim Strohm <"Jim Strohm"@ausq1ak>
Message-ID: <4ghpvj$sgv@newsgate.sps.mot.com>
Source record: 107183

I'm surprised that nobody has suggested AM broadcast surplus as a good source for 160 meter amplifiers.

Check out a copy of Radio News. You'll pay a bunch for a working unit, but you may also get a line on a "fixer-upper" that's not quite good enough any more to run 8760 hours a year.

If you can wind 1/4" copper tube around an oatmeal box, you can convert an FM broadcast transmitter to 160....

N6OTQ
Flame me now and avoid the rush!

1356. Frankfurt VLF time standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: hho@olicom.dk
Message-ID: <4gi22t$fgq@news.dknet.dk>
Source record: 107184

Hi All

Does anybody in this news group Where I can get information about
Frankfurt VLF time standard: freq., time specifications, etc.
if anybody have a ciurcit for at reciever to this Time standard.

Henrik
HHO@olicom.dk

1357. Re: Ideas on a power antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Jim Strohm <"Jim Strohm"@ausq1ak>
Message-ID: <4ghqcj$sgv@newsgate.sps.mot.com>
Source record: 107185

hillgen@remus.rutgers.edu (Fender) wrote:
> anybody have any others for a rather inconspicuous antenna?

I don't know if these are still available -- a few years ago, there was a stick-on 2 meter antenna available that looked like some kind of car alarm decal. You'd just paste it inside a window. Performance reports were good, considering the style of antenna (couldn't touch a 5/8 whip on the roof, but it would take > 50 watts).

You might also consider some of the on-glass antennas, if you don't mind having people think you have a call phone.

Both of these would be simpler than loading up the FM antenna.

1358. PIN Diode I-V ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: ccallewa@cmsa.gmr.com
Message-ID: <4gi3v2$98d@oldsuna.gmr.com>
Source record: 107186

Hi guys,
I'm building an X-band BPSK transmitter and need to know the I-V characteristics of typical PIN diodes used in a double balanced mixer? Altough not elegant, I intend to directly modulate the carrier by applying the NRZ to the LO port of the double balanced mixer which cost about $700 each. Hence, I need to control the drive to stay within budget.

Thanks in advance, Clyde.

1359. Re: NE602 source drys up

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960222095419.20910I-100000@biggulp.callamer.com>
Source record: 107187

One of the reasons the NE602 is unavailable is that higher dynamic range NE602A units are coming out! The newer units have larger printed letters than the older units. Just how much better the newer units are to be is a question I have as well! 73 Cliff Buttschardt W6HDO Morro Bay, CA

On 21 Feb 1996, John Kolb wrote:

> Ben E. Cline (benjy@benjy.cc.vt.edu) wrote:
> : There was talk here a while back about Digi-Key selling
> : NE602s. They are out of stock now and don't plan to
> : restock. (If someone else has already noted this here,
> : sorry for the extra post.)
>
> I picked up a couple last week at RF Parts, San Marcos CA.
> See ads in QST, etc.
>
>
>

1360. Re: NE602 source drys up

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: benjy@benjy.cc.vt.edu
Message-ID: <4giclh$7cq@solaris.cc.vt.edu>
Source record: 107188

In article <4gdk0f$f53@abyss.West.Sun.COM> myers@West.Sun.COM (Dana Myers) writes:
> In article <4gdcou$qf0@solaris.cc.vt.edu>,
> Ben E. Cline <benjy@benjy.cc.vt.edu> wrote:
> >There was talk here a while back about Digi-Key selling
> >NE602s. They are out of stock now and don't plan to
> >restock. [snip]
>
> Oh no!!!! At least you can still buy discrete JFETs and bipolar
> transistors, build an oscillator, and either build or buy a diode
> ring mixer. If you really want gain in front of the mixer, you
> can use another discrete transistor to build a preamp....
>
> ;-)

Isn't that a lot to ask from a software guy like me who doesn't always remember which end of the soldering to hold :-).

Benjy
--
Benjy Cline, AC4XO, Ph.D.
Virginia Tech Computing Center
benjy@benjy.cc.vt.edu
http://benjy.cc.vt.edu:1951/~benjy/

1361. Mods for PRO-23??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <312C9761.8B4@lanl.gov>
Source record: 107189

I'm still looking for mods for the Realistic PRO-23 scanner, or a
newsgroup/list that supports such mods. Thanks in advance,
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
HTTP://nis-www.lanl.gov/~jdport/

1362. Re: Are Ten-Tec Transverters Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: eighmy@scott.net
Message-ID: <4giaaj$71q@news.scott.net>
Source record: 107190

Best $95 I've ever spent on radio gear!!!!!!!!!!

Gene,
wd4mps
Birmingham, AL
EM-63

1363. How to make a simple Hi-Q

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8612.546@acenet.com>
Source record: 107191

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

THANKS for posting this article. I may give ot a try some time.
Do you need a special variable capacitor?
What type did you use? What kinds of results (QSOs, RSTs) have you had
so far with it?

PS>Hi:
PS> I decided to throw away some efficiency for the sake of simplicity.
PS>Most HF hi-Q loop antenna are made in the shape of an octagon since
PS>this approximates a circle quite well. However, there are many 45
PS>degree elbow joints which can cause the resistance to increase and thus
PS>reduce efficiency. Furthermore the use of a trombone capacitor for
PS>tuning is "neat" but is places hardware inside the loop and is difficult to
PS>align for smooth operation.
PS> I designed and built a square loop. Cut a 10 foot piece of 3/4" copper
PS>pipe into four equal lengths. Use two 90 degree elbows to join three of the
PS>pieces into a square. Attach a "T" fitting to the unattached open ends. Take
PS>the
PS>remaining fourth piece of pipe, cut about an inch off of it, and then cut i
PS>in half, so that
PS>it is about 1.25 ft long.
PS>There are plastic pipe inline joint meant for 1/2" ID
PS>plastic pipe. 1/2' plastic pipe OD is very close to the OD of 3/4"
PS>copper pipe. Ream the inside ID out so that it makes
PS>a tight friction fit over the 3/4" copper pipe piece that is about 1.25 ft
PS>long.
PS>Slip the plastic joint over one of the 1.25 ft long piece. Fit a 1.25 ft pie
PS>into a "T" fitting, and do the similar to the other side. Finally, tightend
PS>the
PS>plastic joint to make a rigid square. No alignment problems.
PS>Sweat solder the T fittings and 90 degree elbows. Make sure to push the
PS>plastic joint
PS>away from the side being soldered, it might be deformed from the heat of
PS>soldering.

PS>Buy and cut a +2.5 ft length of 1/2" pipe
PS>and solder some nuts into the ends, cover with heat shrink tubing. Slide
PS>the 1/2" heat shrink covered pipe into the loop through the "T" fittings to
PS>make a variable capacitor. Use a threaded rod to move the 1/2" pipe with a l
PS>rpm motor.

PS>A gamma match is used to match the coax to the loop, it should be centered
PS>opposite
PS>the plastic joint, and it's lenth should be about 1/4 the length of the main
PS>loop.
PS>I used a ferrite bead balun but I haven't confirmed if it hurts or helps. Th
PS>piece of
PS>RG-58, I had already had 70 beads on it from a previous project.

PS>As is the antenna tunes from 10~30 MHz. If a vacum variable is used place of
PS>the
PS>coaxial capacitor, the distributed capacitance affect is reduced so with a
PS>5~200pF
PS>unit, the tunning range is from 6.8~30 MHz.

PS>Good luck and I welcome all comments.

PS>Peter

• SLMR 2.1a •

1364. Re: Radio Database Program LW, MW, SW coverage for YOU.....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Per Stangeland <pstangel@telepost.no>
Message-ID: <4gihej$3q6@nms.telepost.no>
Source record: 107192
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

Charles Bolland <chuck@mail.flinet.com> wrote:
>FRIENDS,
>
>If you would like a free copy of a radio database program that covers
>longwave, mediumwave, and shortwave with at least 4,000 of records, send
>your NAME, POSTAL ADDRESS, and EMAIL address to chuck@flinet, and I will
>return the program to you via EMAIL.
>
>The program is not up to date! It is a program used during 1994 and
>hasn't be updated since. However, many of the records are still current
>for stations that do not change every quarter.
>
>The program is good until June 6, 1996. After that it will not function.
>
>Hope to hear from you and don't forget your Postal Address for
>registration and future information via mail..
>
>All addresses will be kept confidential!
>
>Chuck
>
>chuck@flinet.com
>
>
My address is:
Per Stangeland
Luftfartsverket
Luftveien 16
N-3440 Royken
Norway.

Best Regards Per

1365. Re: Are Ten-Tec Transverters Any Good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Francis Lyn <lynf@candu.aecl.ca>
Message-ID: <4ghotj$72m@shpk1.candu.aecl.ca>
Source record: 107193

A friend and myself both built up the TenTec 6 m transverter last year. It's a well designed piece of gear that performs exceptionally well. It is complete, well documented, and not hard to put together. I use mine with a Kenwood TS50 to get on to the new 6 m repeater just put in service by the local club.

This transverter is exceptional in that it has everything necessary built in; input attenuator, T/R switch, and 3 connectors for the antennas/rig. No messing about with T/R switching signals from the rig.

The only small gripe I have is that the PCB board could have been of a higher quality, but hey, what do you expect for a kit costing $100! Technically, the PCB board supplied does the job just as well as a an epoxy-glass board would.

73
Francis Lyn, VE3TDL.

1366. Re: Simulating old valves/tubes with FETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-22 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <825032034snz@lfheller.demon.co.uk>
Source record: 107194
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

In article <4gias8$2m5@lyra.csx.cam.ac.uk>
mda@cam-orl.co.uk "Mike Addlesee" writes:

> I am looking for advice on FET based equivalent circuits to replace
> old valves/tubes. In particular I have a National HRO-M which uses
> several 6C6. What are the most important characteristics that need
> to be reproduced?

I think that QST had something on this over 20 years ago. People used to remove the glass envelope from the valve base, and the electrodes, and wire a couple of JFETs, Rs and Cs across the pins in a cascode configuration. In many cases the replacement 'valve' worked just as well as the glass variety, and didn't need any other component changes. At least one company actually manufactured such devices.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

1367. Re: Simulating old valves/tubes with FETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <Dn82z7.3DK@hpqmoea.sqf.hp.com>
Source record: 107195
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

Mike Addlesee (mda@cam-orl.co.uk) wrote:

: --
: I am looking for advice on FET based equivalent circuits to replace
: old valves/tubes. In particular I have a National HRO-M which uses
: several 6C6. What are the most important characteristics that need
: to be reproduced?

There were various fet based valve replacements, but they never equalled the originals. Those valves ran appreciable amounts of anode power and so gave quite remarkable dynamic range. Designing a semiconductor circuit to fully equal a bottle in the same impedence environment would be a major undertaking. Power VMOS fets can do the power, but have electrode capacitances much too large to be absorbed by adjusting the coupling circuits.

You could make the think work with Jfet-bipolar cascodes, but you'll lose the wonderful linearity of the HRO.

Sorry,
David GM4ZNX

1368. 49 mhz to 6 meter conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: dll@chattanooga.net
Message-ID: <4gjsnu$3ec@news.chattanooga.net>
Source record: 107196

I have recently read an article in the Boston Amateur radio club archives about converting a 1 channel 49 mhz radio shack walkie talkie to a 6 meter tranciever with a 1 repeater coverage. Does anyone know why this shouldnt work with a simple crystal change? Has anyone done it? It might become my next project.

David Lawson
KF4EBP

1369. Re: Ideas on a power antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb23.171354.19185@ke4zv.atl.ga.us>
Source record: 107197

In article <4gg0i6$qat@remus.rutgers.edu> hillgen@remus.rutgers.edu (Fender) writes:
>
>Here's my idea. I have a Lincoln Continental that I'm absolutely in love
>with and I really would like to have my 2m radio in it but I'm not too eager
>to slap a mag-mount on it or even (gasp) drill holes in it so i have an idea
>for a compromise. How feasable would it be to build some sort of matchbox
>so that I could run realtively low power (50 watts or less) at good SWR
>through the power antenna used for the FM stereo. I figure that if it works,
> I'd mount a second in the fender and it could retract out of the way when
>not in use. I figure that it would have a good ground plane but how
>would I achieve a good match? All advice appreciated! If this idea doesn't
>work out, anybody have any others for a rather inconspicuous antenna?

Antenna Specialists offers a line of "disguise" antennas to the police
market for undercover use. They replace the stock factory entertainment
radio antenna and *look just like it*. Under the fender they're different
of course. Models are available for VHF and UHF, *and* the entertainment
radio still works too thanks to a duplexer circuit included with the
antennas.

These antennas aren't listed in amateur catalogs, just in police
supply catalogs. Check with your local PD radio shop, or talk
directly to Antenna Specialists to see if they have one for your
model Lincoln (probably so since it shares antennas with other
Fords). You could build something similar, but the mechanics could
be somewhat daunting if appearance is important.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1370. Help with Heath VTVM!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: af104@detroit.freenet.org
Message-ID: <4gj9k5$nrs@detroit.freenet.org>
Source record: 107198

I'm having the dumb problem of not being able to swing the
needle all the way over to the 1.5V marker by adjusting the DC
calibrate pot. All wiring is correct, and the 12AU7 is just
fine.

Double checked the wiring - it's correct, with no apperent
cold solder joints. Correct components in place.

I wired this myself recently, and just cant "calibrate" the
meter.

Anyone know of any mods / errata on this VTVM? it
's the wide one with the large meter. The box pivots in a
"U" shaped mounting bracket.

Probe is fine. 1.5V voltage source fine. This is stupid, but
just can't get it to calibrate!

Thanks,

Jeff
WB5KZW
--

1371. Re: 49 mhz to 6 meter conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: mgarrett@prairienet.org
Message-ID: <4gku4l$g3g@vixen.cso.uiuc.edu>
Source record: 107199

In a previous article, dll@chattanooga.net (David Lawson) says:

>I have recently read an article in the Boston Amateur radio club archives
>about converting a 1 channel 49 mhz radio shack walkie talkie to a 6 meter
>tranciever with a 1 repeater coverage. Does anyone know why this shouldnt
>work with a simple crystal change? Has anyone done it? It might become my
>next project.
>
>David Lawson
>KF4EBP
>
I have done it. It is really quite simple to change over the 1 channel
units that are crystal controlled. If you order crystals order wire leads
so that you can lay over the transmitter cystal over on the board (if you
use the hc18 style and mount it vertical you will not get the case closed)
Tuneup is straighforward. You might want to add a small pot to the fixed
resistor squelch circuit to loosen up the squelch and come up with another
type of antenna (at 50mw you still have only a 1/4 mile range tops with
the antennas on these units. A decent antenna or beam can really help out
on range).>

--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

1372. Re: Need Recommendation for DSP Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: Peter Trapp <alpha10@digital.net>
Message-ID: <4gj18u$rh@ddi2.digital.net>
Source record: 107200

Is this filter for the audio or receiver's "IF"? If it's for the "IF"
what is the if frequency?
--
****
* An explanation should be as simple as possible, but no simpler *
* - Albert Einstein *
~~~~~~
* Peter Trapp alpha10@digital.net *
****

1373. Re: MOSFET X-Ref: help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: "Thomas C. J. Sefranek" <sefranek@iii.net>
Message-ID: <4gj93f$gbu@news.iii.net>
Source record: 107201

Try MTP30N06

Motorola

See the Motorola Power FETs web site for specifications

Tom

1374. Wanted 12 Volt 4 pin vibrator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4gj7n9$l91@news.ios.com>
Source record: 107202

I came across an old Terado 12 DC to 110 AC Inverter. I believe any 4 pin (2 big, 2 smaller) 12 volt vibrator will switch it. Anybody got a lead on where I might find one?
macino@mail.fwi.com aka WD9AHF

1375. Re: ? transverter 10m-70cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: pavel.reberc@guest.arnes.si
Message-ID: <4gju1n$7qs@cmir.arnes.si>
Source record: 107203

hsreiser@cip.informatik.uni-erlangen.de (Hans Reiser (CIP 95)) wrote:

>Hello!

>I intend to build a transverter 10m<->70cm (maybe also 10m-23cm), and
>i'm looking for any information about this. Any hints how to do
>so would be appreciated, as well as sources for schematics, literatur,
>etc, and personal experiences with this.
>One additional intended use of my project is in digital communication,
>and therefor I'm especially interested in the capability of
>full-duplex operation (simultanious TX and RX), and fast (electronic)
>TX/RX switching. And of course I'm interested also in
>low-budget-designs... :-)

>Thanks for your replies.

> Hansi.

>-----
>Hansi Reiser, dl9rdz <hsreiser@cip.informatik.uni-erlangen.de>
> WWW-URL: <http://home.pages.de/~dl9rdz>
> packet radio: <dl9rdz@db0wgs.#bay.deu.eu>

73,
The 70 cm - 10m transverter named DX'ers transverter for 432 Mhz with
good performance IP3, sensitivity... g4hgt design has been published
in 'THE VHF/UHF DX BOOK' (g3sek Ian White - editor) , published by DIR
PUBLISHING LTD, p.box 771, Buckingham MK18 4HH, England

GL, de Pavel Reberc, S57RA, pavel.reberc@guest.arnes.si

1376. Re: Frankfurt VLF time standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4gk1uq$10a@tempo.univ-lyon1.fr>
Source record: 107204

Henrik Holmgaard (hho@olicom.dk) wrote:
: Hi All
: Does anybody in this news group Where I can get information about
: Frankfurt VLF time standard: freq., time specifications, etc.
: if anybody have a ciurcit for at reciever to this Time standard.

You mean DCF77 ?

I guess it's on 77 kHz, and there has been a decoder published some time
ago on Elektuur.

I'll try to get more info.

73, Vince
--
F5RCS - Worldwide Friendship through Amateur Radio
ENST, Ecole Nationale Superieure des Telecommunications, Paris

1377. Re: Need Recommendation for DSP Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: uid@ornl.gov
Message-ID: <uid.57.312DB44B@ornl.gov>
Source record: 107205

In article <uid.55.312CB9CE@ornl.gov> uid@ornl.gov writes:
>Path: stc06.ctd.ornl.gov!zaek25.ymd.ornl.gov!uid
>From: uid@ornl.gov
>Newsgroups: rec.radio.amateur.homebrew
>Subject: Need Recommendation for DSP Design
>Date: Thu, 22 Feb 1996 18:45:34 GMT
>Organization: Oak Ridge National Lab, Oak Ridge, TN
>Lines: 10
>Message-ID: <uid.55.312CB9CE@ornl.gov>
>NNTP-Posting-Host: zaek25.ymd.ornl.gov
>X-Newsreader: Trumpet for Windows [Version 1.0 Rev A]

>I need a recommendation for a compact DSP unit for 2.7 KHz Bandwidth SSB
>transceiver only. I thought about robbing a Radio Shack unit of the components
>needed just for my homebrew application.

>Any recommendations for DSP chips which already have the code in them and I
>can design around them?

>Danny Britton
>qb7@ornl.gov

Audio DSP

Danny

1378. Re: Help with Heath VTVM!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.825110834.8397.jwicklun@mycroftxxx.halcyon.com>
Source record: 107206

Hi Jeff, I can't think of anything obvious but there are a couple of things that you can look at.

1. put the meter in the ohms position with the probes disconnected or open. Does it read full scale now? This also puts 1.5v onto the meter circuit but without the DC input attenuator in the circuit. If this doesn't give you full scale (you might have to adj the ohms adj), then the problem is most likely in the 12AU7 & meter circuit. If it does look normal, then the problem is most likely in the probe and attenuator circuit.

2. You didn't say which model, but if it has the combined AC/DC/OHMs probe, try putting the probe switch (not the mode selector) into the AC/ohms position while probing the 1.5v battery. This will bypass the 1m resistor in the probe. If the meter now adjusts to full scale it suggests that the input attentuator has too low a resistance and the 1meg in the probe is dropping the voltage. If you have a good DVM you can try measuring the input attenuator resistance (do this with the VTVM power off and the plug pulled. Then just connect the dvm probes to the VTVM probes - you should get 11meg).

Let me know what you find----we'll get it working....Jay

1379. Re: Comb and interdigital filters for diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: Gareth Edwards <Gareth@darkblue.demon.co.uk>
Message-ID: <825086246snz@darkblue.demon.co.uk>
Source record: 107207

In article <4gho2f$51t@tempo.univ-lyon1.fr> elendir@enst.fr "Elendir" writes:

> Hi,
> do you think that a diplexer such as :
>
> - Having less than 1 dB of insertion loss at 1297 MHz.
> - Having more than 80 dB of attenuation at 1291 MHz
>
> can be built using "standard" (not microstrip, but with rods) comb or
> interdigital filters ?
>
> A cavity filter costs more than $750, it's too expensive for me.
>
> THX et 73
> Vincent
>
> --
> F5RCS - Worldwide Friendship through Amateur Radio
> ENST, Ecole Nationale Superieure des Telecommunications, Paris
>

Vincent,

I'm a filter engineer by trade, and this sounds like a tough job.
I presume there is a passband required and a stop band required, rather
than just two spot frequencies. If this is the case, then I don't
think an all pole Chebyshev would be up to the job; you'd probably need
a ridiculous number of poles and resonators about half a metre across.

For comparison, we cellular guys have a passband requirement of
<1dB from 880-915MHz, > about 60dB attenuation 925-960MHz, and usually
use 7 or 8 poles and a couple of finite frequency zeros a la elliptic
filter to do the job. Tough to design and tune if you don't have either
a) a deep understanding of filter theory or b) lots of brute force
computing power and a very good optimiser.

In short, not the kind of spec *I* would look forward to, and I get paid
for this.

I know this doesn't help, but I just thought I'd throw in the
professional perspective.

Cheers,
Gareth.

--
I don't want the world; I just want your half. - TMBG

```
-------------------------------------------------------------------
| Gareth Edwards | Gareth@darkblue.demon.co.uk |
| Edinburgh, | Home of Edinburgh Beige Cricket Club |
| Scotland | PGP public key available on request |
-------------------------------------------------------------------
```

1380. Re: Comb and interdigital filters for diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <4gl0m6$4dm@canyon.sr.hp.com>
Source record: 107208

Elendir (elendir@enst.fr) wrote:

: do you think that a diplexer such as :

: - Having less than 1 dB of insertion loss at 1297 MHz.
: - Having more than 80 dB of attenuation at 1291 MHz

: can be built using "standard" (not microstrip, but with rods) comb or
: interdigital filters ?

: A cavity filter costs more than $750, it's too expensive for me.

I have designed and built interdigital filters using ~10 mm diameter
brass rods in copper boxes with various numbers of sections. These work
very well, give stable and repeatable performance due to the basic high
Q of the resonator. However, I agree with the other response that
simultaneously achieving low insertion loss and high stopband that close
is going to be a challenge for this kind of implementation.

I suspect that to get that kind of performance you'll find yourself
with larger volume structures or at least a lot more elements.
It may start to look a lot like the $750 implementation you mention.

If I were trying to do it, I think I'd investigate inexpensive ways to
make the highest Q resonator I could, almost certainly a copper or
silver cavity of some kind. Once determined, I'd see how many of them
it would take to get the required performance.
Having some machining capability will no doubt help here.

If you are interested in a lesser filter, I'd be happy to supply the
design of a ~.5 dB IL, ~30 MHz wide interdigital filter I've built.
They're easy to fabricate, cheap and perform well, though not even close
to what you are asking for.

73
Glenn Elmore n6gn

amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

|--------------- N6GN's Higher Speed Packet WWW Page -------------------|
| |
| ftp://col.hp.com/hamradio/packet/n6gn/index.html |

1381. tunnel diodes, to Dave Moorman...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4gl3pq$1fb@peabody.colorado.edu>
Source record: 107209

Dave, K9SW: I have lost your e-mail address; please resend it.

Bruce

1382. Re: 49 mhz to 6 meter conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4glc68$cqo@globe.indirect.com>
Source record: 107210

dll@chattanooga.net (David Lawson) wrote:

>I have recently read an article in the Boston Amateur radio club archives
>about converting a 1 channel 49 mhz radio shack walkie talkie to a 6 meter
>tranciever with a 1 repeater coverage. Does anyone know why this shouldnt
>work with a simple crystal change? Has anyone done it? It might become my
>next project.

The only place you might trip up is not having enough "travel" on any
of the little can coils to bring resonance up by the 2-3 Mhz it might
take. Some of the cheapies use "naked" wire coils that you can spread
out to reduce inductance, but it's not an exact science and make take
some futzing.

You might give it a shot and let us know how you do.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

1383. Re: ? transverter 10m-70cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-23 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <drP3XCA0DdLxEwVQ@ifwtech.demon.co.uk>
Source record: 107211

In article <4gju1n$7qs@cmir.arnes.si>, wrote:
>hsreiser@cip.informatik.uni-erlangen.de (Hans Reiser (CIP 95)) wrote:
>
>>Hello!
>
>>I intend to build a transverter 10m<->70cm (maybe also 10m-23cm), and
>>i'm looking for any information about this. Any hints how to do
>>so would be appreciated, as well as sources for schematics, literatur,
>>etc, and personal experiences with this.
>>One additional intended use of my project is in digital communication,
>>and therefor I'm especially interested in the capability of
>>full-duplex operation (simultanious TX and RX), and fast (electronic)
>>TX/RX switching. And of course I'm interested also in
>>low-budget-designs... :-)
>
>>Thanks for your replies.
>
>> Hansi.
>
>>-----
>>Hansi Reiser, dl9rdz <hsreiser@cip.informatik.uni-erlangen.de>
>> WWW-URL: <http://home.pages.de/~dl9rdz>
>> packet radio: <dl9rdz@db0wgs.#bay.deu.eu>
>
>73,
>The 70 cm - 10m transverter named DX'ers transverter for 432 Mhz with
>good performance IP3, sensitivity... g4hgt design has been published
>in 'THE VHF/UHF DX BOOK' (g3sek Ian White - editor) , published by DIR
>PUBLISHING LTD, p.box 771, Buckingham MK18 4HH, England
>

Wait... there may be a better design coming up soon in the DUBUS
magazine. The G4HGT design works well but is not easy to get going -
mostly because of the difficulty in preventing Norton amplifiers from
oscillating.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1384. Re: Help with Heath VTVM!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4gllIt$35t@news.ios.com>
Source record: 107212

In <4gj9k5$nrs@detroit.freenet.org>, af104@detroit.freenet.org (Jeffrey L. Bauman) writes:
>
>
>I'm having the dumb problem of not being able to swing the
>needle all the way over to the 1.5V marker by adjusting the DC
>calibrate pot. All wiring is correct, and the 12AU7 is just
>fine.
>
>Double checked the wiring - it's correct, with no apperent
>cold solder joints. Correct components in place.
>
>I wired this myself recently, and just cant "calibrate" the
>meter.
>
>Anyone know of any mods / errata on this VTVM? it
>'s the wide one with the large meter. The box pivots in a
>"U" shaped mounting bracket.
>
>Probe is fine. 1.5V voltage source fine. This is stupid, but
>just can't get it to calibrate!
>
>Thanks,
>
>Jeff
>WB5KZW
>--

Hi Jeff,
If you have another meter, you just might want to check the B+ and the other voltages to the tube. Even though you have a good tube, you may not be putting the correct DC levels to it. Good luck.

WD9AHF - Jim

1385. Re: Ideas on a power antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: <>
Message-ID: <4glos0$92o@news.ios.com>
Source record: 107213

In <4gg0i6$qat@remus.rutgers.edu>, hillgen@remus.rutgers.edu (Fender) writes:
>
>Here's my idea. I have a Lincoln Continental that I'm absolutely in love
>with and I really would like to have my 2m radio in it but I'm not too eager
>to slap a mag-mount on it or even (gasp) drill holes in it so i have an idea
>for a compromise. How feasable would it be to build some sort of matchbox
>so that I could run realtively low power (50 watts or less) at good SWR
>through the power antenna used for the FM stereo. I figure that if it works,
> I'd mount a second in the fender and it could retract out of the way when
>not in use. I figure that it would have a good ground plane but how
>would I achieve a good match? All advice appreciated! If this idea doesn't
>work out, anybody have any others for a rather inconspicuous antenna?
>
> Thanks!
> Jay
> N2OTK
>
>Jay,
Have you ever considered an 'on glass' antenna? It'll do just about every thing
you want except retract. In that case you, unscrew the antenna mast and toss
it in the back seat. It'll be a lot less hassle in the long run. They run about $50
for a pretty good one.
Jim

1386. DigiBrain Spur/Noise Elimination?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerk-2302962250450001@10.0.2.15>
Source record: 107214

March QST's refinement of the DigiVFO (adding a microprocessor and "knob" tuning with display) looks wonderful. It raises, of course, the same question I had about the original: additional circuitry needed to "clean up" the output to avoid spurs on receive. (Spurs at only 70 dB down can mean lots of receive birdies!) I'd love to apply it to my R2 setup, but not at the price of tons of spurs and noise!

A good PLL is of course the obvious solution... but I wonder... I am using a 74HC240 buffer to generate square wave drive for my system... similar to the buffer of the "remote VFO" project a while back. Would this tend to take care of those spurs and noise, the chips responding only to the main (strongest) signal in shaping the square wave?

: John Seboldt rohrwerk@netcom.com / CW: It don't mean a thing
: K0JD... Minneapolis, MN / if it ain't got that swing!
: My R2/T2 station described in / Di dah, di dah, di dah, di dah...
<http://www.lehigh.edu/lists/qrp-l/k0jd/index.html>

1387. VCO question : 100 KHz deviation capability is it enough for 75KHz operation ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: opworld@worldnet.fr
Message-ID: <4gmooj$k0q@aldebaran.sct.fr>
Source record: 107215

Hi,

I plan to use a hybrid VCO with 100KHz deviation capability (information from manufacturer). I design a stereo FM emetter and I need 75KHz deviation.

Is it enough or do I choose a VCO with wider deviation ? Is this important for signal quality and purity ?

Regards

Have
a nice opworld@worldnet.fr
Day

1388. Re: FS: Jenning Vacuum Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <Dn98r6.EyM@nsc.nsc.com>
Source record: 107216

Are the caps still available? Do you have any mounting hardware? I
might as well ask this too, do you have any transmitting type "doorknob"
ceramic capacitors, 1000pf @ 20KV or 500pf @ 20 KV?
let me know please.
73, Al

1389. Re: MOSFET X-Ref: help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <Dn9829.EAz@nsc.nsc.com>
Source record: 107217

These are SGS Thompson power Mosfets. You can replace with National Semi NDP4060, or Motorola MTP30n06. They are 30A, 60 Volt devices and should be available from Digikey at 1-800-344-4539. I think they have a web home page too.
Regards, Al
(Marketing manager for discrete transistors including the NDP4060)

1390. Re: Help with Heath VTVM!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <Dn987q.EGz@nsc.nsc.com>
Source record: 107218

I've had no problem with mine in 20 years. Use a standard zinc-carbon battery to calibrate it. Alkalines have slightly different voltages. If I remember correctly, you CAL to a red mark on the meter. (I'm not at home where the meter is.)
Regards, Al

1391. Re: Frankfurt VLF time standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: magne@nvg.unit.no
Message-ID: <4gmom9$d7g@due.unit.no>
Source record: 107219

Henrik Holmgaard (hho@olicom.dk) wrote:
: Hi All

: Does anybody in this news group Where I can get information about
: Frankfurt VLF time standard: freq., time specifications, etc.
: if anybody have a ciurcit for at reciever to this Time standard.

Look up http://www.tu-bs.de/rz/sysadmin/dienste/ntp/clock.txt.html

The document describes various standard time/frequency stations, with
the protocols, frequencies etc. used.

--Magne

1392. Hamtronics e-mail???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: Bill Meara <w.meara@codetel.net.do>
Message-ID: <4gmss5$4pu@server2.codetel.net.do>
Source record: 107220

I'm having a bit of trouble with my Hamtronics 435 mhz tranverter (no doubt caused by me!) Anyone have an e-mail address for them. Better yet, are there any tranverter guru's out there? Bill N2CQR/HI8

1393. Iron -on Transfers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: johnc@america.net
Message-ID: <4gnhnb$2vm@peach.america.net>
Source record: 107221

Has anyone had any good results using the Iron-on and peel transfer papers. I believe it's call PnP Blue by a company called Techniks Inc. If you have had experience please pass on any tips you may have.

Thanls, John

1394. Re: Comb and interdigital filters for diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4gns19$cbi@tempo.univ-lyon1.fr>
Source record: 107222

Glenn Elmore (glenne@sr.hp.com) wrote:

: Q of the resonator. However, I agree with the other response that
: simultaneously achieving low insertion loss and high stopband that close
: is going to be a challenge for this kind of implementation.

I barely have the choice. I cannot place a pre-amp before the filter,
and any loss will affect the noise figure. And outputing 10 W...

: If I were trying to do it, I think I'd investigate inexpensive ways to
: make the highest Q resonator I could, almost certainly a copper or
: silver cavity of some kind. Once determined, I'd see how many of them
: it would take to get the required performance.

I have done it. 3 should do the job (3 cavities). But the Q of a single
rod cannot reach 1000 ?

: Having some machining capability will no doubt help here.

We have a machine (sorry, the English name is unknown to me !) - it's
called a "tour" in French.
The diplexer should be used for a repeater. It would perhaps be the
first 23 cm repeater in France, and it would be multimode (FM, BLU).

: If you are interested in a lesser filter, I'd be happy to supply the
: design of a ~.5 dB IL, ~30 MHz wide interdigital filter I've built.
: They're easy to fabricate, cheap and perform well, though not even close
: to what you are asking for.

It won't help me for the diplexer, but it may be useful at other stages
of the repeater (especially after the final up-mixer).

Thanx ES 73 :-)
Vince, F5RCS

1395. 15pin video, want to use old monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4gnt6c$jip@cloner2.ix.netcom.com>
Source record: 107223

I've got an old laptop (386) Im going to dedicate to the ham shack, mostly to run Hamcomm, Baycomm, and perhaps JVFAX. It has a 15 pin output for a VGA monitor, since everything I'm running is CGA and even then, mostly text based I want to use an amber monitor pulled out of a terminal. As best I can tell there are 3 inputs to the monitor for horz,vert, and video. (I may not have those terms correct but I know they are the minimum nessesary) I've successfully connected it to an old Sinclair Z-80, but dont want to blow the video out of the laptop.

Any suggestions on which pins will provide the nessesary signals. I'm just not up on the types of signals comming from the 15 pin video out.

Thanks for any and all input.

73, Tim
ka8ddz

1396. Re: Homebrew GPS RX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: James C Mankin <N5X@psuvm.psu.edu>
Message-ID: <96055.155752N5X@psuvm.psu.edu>
Source record: 107224

In article <dndshore-2402960028570001@srf-ca3-24.ix.netcom.com>,
dndshore@ix.netcom.com (David Shore) says:

>Hello, I wrote the original post about a homebuilt GPS. I can't find the
>backlogs of the UKW berichte journal anywhere on the i-net. Is there any
>more detailed information you can give me about this article?

Something that might be easier to find is the Proceedings of the 9th
Computer Networking Conference of Sept. 22, 1990 in London, Ontario.
You might be able to get a copy from the ARRL. There is a about 45
page article by Dan Doberstein on building a GPS reciever (at least
the RF parts) But like others have said, its hard to justify the
years of work that would be required when you can buy one for a couple
of hundred bucks. (building one would undoubedly be more expensive
just counting the parts) 73s jim kb3kj

1397. Re: Iron -on Transfers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: sshumway@ix.netcom.com
Message-ID: <4go8o0$mke@cloner4.netcom.com>
Source record: 107225

In <4gnhnb$2vm@peach.america.net> johnc@america.net (John Caramatti) writes:
>
>Has anyone had any good results using the Iron-on and peel transfer
>papers. I believe it's call PnP Blue by a company called Techniks
>Inc. If you have had experience please pass on any tips you may have.
>
>Thanls, John
>

John,

I have nothing but good things to say about PnP Blue.

I had some initial missgivings about it, because I had previously tried to use normal overhead transpanancy film to build a printed circuit board. This was a total failure.

The difference is: the PnP Blue "film" has a coating of (big surprise) blue "stuff". This blue stuff adhears to the toner (from the laser printer, or photo copier) and adds resilience to the resist once it is stuck to the
Cu.

A couple of tricks:

1) Make sure that the board is absolutly CLEAN.

2) Make sure that the board is absolutly CLEAN!

Even one finger print will cause the resist to transfer improperly. I finaly used a laquer thinner to get the board to that final level of clean (while wearing latex gloves).

Another problem that I've had is that registration of a double sided board can be a bit tuff. Don't give up, it can be done.

Several things I DON'T know:

I have not as of this writing:

Tried to produce a board which had traces smaller than 24 mills.

Tried to run a trace between the pins of a 100 mill center component.

On the whole, I am very happy with PnP Blue. I recomend it for small runs of PC boards with the above provisions.

Good luck

Steve Shumway
N8SHP
sshumway@ix.netcom.com

1398. Wanted-DEAD! HP(8)478A Thermistor Mount

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <96055.155955IFF161@DJUKFA11.BITNET>
Source record: 107226

If anyone has a next to useless, burned-out, thermistor mount of the above or similar types, I would like to buy it as "Raw material" if your price matches the state of the head. Also, coaxial thermal heads of other sorts (No based on thermistors) would be interesting, even if dead.

Bob<iff161@djukfa11>

1399. Re: DS-1A (DC-DC converter for Kenwood) question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: mishmash@anv.net
Message-ID: <4gne16$b5r@bighorn.accessnv.com>
Source record: 107227
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4gaq03$3sh@news3.cts.com>, jlkolb@sd.cts.com says...
>
>charles copeland (charles1@netcom.com) wrote:
>: In article <4ft09j$ias@crchh327.rich.bnr.ca>,
>: Ken Edwards <cnc23a@b4pph13e.bnr.ca> wrote:
>: >I have a Kenwood TS-820S that I would like to run off battery in
>: >cases of emergency.
<snip>
>:How is the power (DC) connected into the system ?
>
The TS-820S that I had only required the DS-1A (2 Transistors & Heatsink). The
original transformer had separate winding for the DS-1A. Worked very nicely.
I wanted to build my own, but could not find the transistors at the time
(early 1980's)

Charlie AA7NQ

1400. *** Looking for schematics for Digital Tx/Rx low power

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-24 00:00:00 UTC
From: "KC5BOD - Mike Wilsher"
Message-ID: <4go18h$chn@doc.zippo.com>
Source record: 107228

I'm looking for schematics/hints on building a low power (>1w rf) tx/rx
pair for transmission of data. I'm a pretty good digital designer but
am lacking when it comes to Rf design. Soooo does anyone know of schematics,
Chip suggestions or any other helpfull info. Almost for got I'll be transmitting
data at 9600baud, I'd like a 900mhz FM approach, but I need to besure that this
thig falls into a ham experimenters catagory or a low power unlic. device
catagory. Any way any help or Ideas would be great. Please e-mail me at ;
mwilsher@randomhouse.com

Thanks and '73s
Mike Wilsher
KC5BOD

1401. Re: Iron -on Transfers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: sshumway@ix.netcom.com
Message-ID: <4goh27$pv1@ixnews2.ix.netcom.com>
Source record: 107029

In <4gnhnb$2vm@peach.america.net> johnc@america.net (John Caramatti) writes:
>
>Has anyone had any good results using the Iron-on and peel transfer
>papers. I believe it's call PnP Blue by a company called Techniks
>Inc. If you have had experience please pass on any tips you may have.
>
>Thanls, John
>

John,

I have nothing but good things to say about PnP Blue.

I had some initial missgivings about it, because I had previously tried to use normal overhead transpanancy film to build a printed circuit board. This was a total failure.

The difference is: the PnP Blue "film" has a coating of (big surprise) blue "stuff". This blue stuff adhears to the toner (from the laser printer, or photo copier) and adds resilience to the resist once it is stuck to the
Cu.

A couple of tricks:

1) Make sure that the board is absolutly CLEAN.

2) Make sure that the board is absolutly CLEAN!

Even one finger print will cause the resist to transfer improperly. I finaly used a laquer thinner to get the board to that final level of clean (while wearing latex gloves).

Another problem that I've had is that registration of a double sided board can be a bit tuff. Don't give up, it can be done.

Several things I DON'T know:

I have not as of this writing:

Tried to produce a board which had traces smaller than 24 mills.

Tried to run a trace between the pins of a 100 mill center component.

On the whole, I am very happy with PnP Blue. I recomend it for small runs of PC boards with the above provisions.

Good luck

Steve Shumway
N8SHP
sshumway@ix.netcom.com

1402. Re: QRP Schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: <>
Message-ID: <4gpo9e$ogd@news.fwi.com>
Source record: 107030

In <4gf38m$gud@news-f.iadfw.net>, kmiller@airmail.net (Kerry W. Miller) writes:
>Ok, I finally got them all finished. The schematics are at John
>Cunliffe's web page:
>
>http://www.frontiernet.net/~cunliffe
>
>If you have problems, drop me a note, I have all the original
>articles. Have fun!
>73,
>Kerry Miller
>kmiller@airmail.net
>
>
Hi Kerry,
I used the OS/2 Warp WebExplorer and it was about 6 mouse clicks and they're
now comfortable resting on my hard drive. Thanks for putting them out there.

73's Jim WD9AHF

1403. Re: Homebrew GPS RX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: magne@nvg.unit.no
Message-ID: <4gpv44$jcg@due.unit.no>
Source record: 107031

David Shore (dndshore@ix.netcom.com) wrote:
: Hello, I wrote the original post about a homebuilt GPS. I can't find the
: backlogs of the UKW berichte journal anywhere on the i-net. Is there any
: more detailed information you can give me about this article?

The articles were written by Matjaz Vidmar, S53MV (ex. YT3MV, YU3MV).
They appeared in VHF Communcations (the "english-language version of
UKW-Berichte) starting edition 1/94.

US representative is: Wyman Research Inc, RR#1 Box 95, Waldron,
Indiana 46182 Phone: (317) 525-6452

Publishers address is:
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK

--Magne / la1bfa

1404. Re: ### KISS on a Baycom?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: Max Lock <csd3cr@herts.ac.uk>
Message-ID: <Pine.SUN.3.91.960225153933.5331A-100000@altair.herts.ac.uk>
Source record: 107032

Hi there,

Nope, as far as I know, theres no way possible to "do" a baycom on
Linux, beacause it's a multithreaded OS. Baycom relies on interrupts to
it's native DOS environment, and the Linux system has no way to this.

I think i'm on the right path here, corect me if I'm wrong :)

Max. G7UOZ & Linux fan.

--
/_/_/ University of Hertfordshire ARS. ______
/ /|/ / \
Callsign: G7UOZ - TCP/IP: 44.131.166.25 - AX25: G7UOZ@G6BOB.AMPR.ORG
WWW: HTTP://147.197.131.75/~g7uoz/g7uoz.html - E-MAIL: M.T.Lock@herts.ac.uk
|_____|_____|

1405. Re: Frankfurt VLF time standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: wautelet@innet.be
Message-ID: <AD5644C5966818222@pool02a-205.innet.be>
Source record: 107033

In article <4gi22t$fgq@news.dknet.dk>,
hho@olicom.dk (Henrik Holmgaard) wrote:

>Hi All
>
>Does anybody in this news group Where I can get information about
>Frankfurt VLF time standard: freq., time specifications, etc.
>if anybody have a ciurcit for at reciever to this Time standard.
>
>Henrik
>HHO@olicom.dk
>

Hi,

Freq is 77 Khz (easy enough, it's called DCF77).
Take a look at some Elektuur (or whatever it's called in your national
language if there is an edition), you should be able to find
more info.
I have 2 clocks (one analog other digital) running on DCF77,
nice gadget makrr are CITIZEN and JUNGHANS.
There a lot of clocks available quite cheap from german company.
Also interface for PC (and Mac ?).
Hope it help,
Thierry

Internet : wautelet@innet.be A PowerMac User !
CIS : 76334,337
Ham : ON7KL@ON7RC.#BT.BE.EU

1406. McCoy filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <4gpvsr$rai@newsbf02.news.aol.com>
Source record: 107034

Wanted to buy...McCoy Silver Sentinel or Golden Guardian crystal lattice filters.

Send response to johnsonhe@AOL.com

1407. Re: Need Recommendation for DSP Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: David Nulton <dnult@axiom.net>
Message-ID: <4gq1pn$3n9@alterdial.UU.NET>
Source record: 107035

Danny:

For audio DSP - the Texas Instruments TMS320C(10,20,30) chips are the best (IMHO). There is also a large collection of TMS320 programs and discussion associated with audio filters and other DSP stuff. As far as a DSP chip with stuff already in it, I don't know of any. You must write a program, assemble and program the chip.

For assembly, TASM is a freeware assembler that handles the 320 in addition to other popular uPs. I believe the EEPROM version of the TMS320 can be adapted to a 27c256 or simular EEPROM programmer. If you really want to get into it, TI offers some development kits with already assembled boards and PC software to plug and play you programs for about $100 if I remember correctly.

Hope this helps

73s

de KI5XW

1408. Re: Simulating old valves/tubes with FETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: David Nulton <dnult@axiom.net>
Message-ID: <4gq1c2$3n9@alterdial.UU.NET>
Source record: 107036
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

Mike:

The only thing I've heard of in terms of reproducing valve effects with semiconductor equivalents has been in the music business. In that case, musicians want to duplicate the harmonic characteristics and compression of tubes. A man named Eric Pritchard had built a device the do just that. However most of his tubes are geared toward audio, particlarly the medium mu tubes like 12ax7s and at7s. He may have some 6L6 or EL34 type tubes.

This probably doesn't help, but if so, mail me and I can get you in touch with Mr. Pritchard.

73s
de KI5XW

1409. Wiretapping and Telephone Bugging Web Page tscm.com

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: jmatk@tscm.com
Message-ID: <jmatk-2502961534560001@jmatk.tiac.net>
Source record: 107037
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Finally the tools and test equipment page is finished, and we have updated
our frequency tables/lists.

Check out our updated tool and TSCM test equipment list.

http://www.tscm.com/

http://www.tscm.com/tmde.html <--- TSCM Test Equipment
http://www.tscm.com/tools.html <--- TSCM Hand Tools
http://www.tscm.com/stu.html <--- Secure Telephones and Scramblers

Upcoming Topics to watch for in March... Any interest??

Wired Microphones and Pinhole devices... tons of pictures
The Computer Audio/Video Threat... tons of pictures
Join us for a real world TSCM sweep...

Feel free to suggest topics...

James M. Atkinson "...Shaken, not Stirred..."
TSCM.COM
127 Eastern Avenue #291
Gloucester, MA 01931-8008
URL: http://www.tscm.com/ E-Mail: jmatk@tscm.com
The First, The Largest, The Most Popular, and the Most
Complete TSCM Counterintelligence Site on the Internet

1410. Re: DS-1A (DC-DC converter for Kenwood) question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4gqm82$p16@cc.iu.net>
Source record: 107038
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In <charles1Dn04yE.Bxn@netcom.com>, charles1@netcom.com (charles copeland) writes:
>In article <4ft09j$ias@crchh327.rich.bnr.ca>,
>Ken Edwards <cnc23a@b4pph13e.bnr.ca> wrote:
>>I have a Kenwood TS-820S that I would like to run off battery in

ts-820...about 160 W input...pulls about 20A at 12 V..

>I've looked into this also for my TS-820. The box that connects
>to the TS-820 that allows DC operation only contains a two resistors
>and two mega transistors.

sounds something like the supply used in the TS-520..

>The transistors are no longer in production, but the equivalent
>is ZN4049, PNP germanium, 60A, 45V, TO-36, NTE28 at the tune
>of $45 each. Thats $90 a pair. Not a pretty picture.
>
>I think it would be more feasible to buy a DC to AC converter for
>your cigarette lighter plug and drive the TS-820 with 120VAC.
>I would be interested in anyones experience doing this.

i don't think the lighter can supply enough current for transmit.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

1411. 15 pin video on laptop - Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4gqorh$h15@cloner4.netcom.com>
Source record: 107039

I've got an old laptop (386) Im going to dedicate to the ham shack, mostly to run Hamcomm, Baycomm, and perhaps JVFAX. It has a 15 pin output for a VGA monitor, since everything I'm running is CGA and even then, mostly text based I want to use an amber monitor pulled out of a terminal.(It has a really nice color to it) As best I can tell there are 3 inputs to the monitor for horz,vert, and video. (I may not have those terms correct but I know they are the minimum nessesary) I've successfully connected it to an old Sinclair Z-80, but dont want to blow the video out of the laptop.

Any suggestions on which pins will provide the nessesary signals. I'm just not up on the types of signals comming from the 15 pin video out. (Can I mix RBG all together on the same pin to drive monochrome?)

Thanks for any and all input.

73, Tim
>ka8ddz

1412. FM-10 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: craigivey@aol.com
Message-ID: <4gqrpl$7av@newsbf02.news.aol.com>
Source record: 107040

I have a FM-10 (rev. F) that drifts. I read in the FM-10 FAQ that the frequency selecting capacitor can be swapped out with a more stable one (tantalum, silver mica, polystyren). Also the diodes can be swapped out with a zener diode.

What type of capacitor and zener diode do I need to get and where can I get it?

CraigIvey@aol.com

1413. VHF LO Parasitic--common?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <313100EA.2CE5@arrl.org>
Source record: 107041

I recently noticed a low level parasitic
on a VHF crystal oscillator based on the
no-tune designs. Seems that if the
transistors have enough gain at audio
frequencies, the parallel inductor that tunes
out the crystal's shunt capacitance can form
an audio feedback path.

The cure is simple--add a small value capacitor
in series to block the audio signal, yet pass the
desired VHF signal.

The spur is easier to see if the oscillator is
multiplied by a large number--with a 24 times
multiplier the +/- 930 Hz spurs were about 60 dB
down.

I wonder if other people have noticed similar
problems? Maybe with similar circuits in more
critical applications where the spurs might be
a real problem?

Zack KH6CP/1 zlau@arrl.org

1414. DTMF FTP SITE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-25 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <4grd76$d8j@newsbf02.news.aol.com>
Source record: 107042

Special thanks to everyone that asked for a copy of my DTMF program. I have made the DTMF program available at my ftp site. You can still request it by e-mailing me at PDRUNEN@AOL.COM.

To get there ftp to users.aol.com

login as "ftp"
Password as "your e-mail address"
then cd /pdrunen
then cd /dtmf
get dtmf_v11.exe.

You will also find a really nice windows based GIF viewer, VUGRAF13.ZIP for the taking.

1415. Homebrew help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: you@somehost.somedomain
Message-ID: <4gqu6t$bv4@sundog.tiac.net>
Source record: 107043

If anyone out ther knows how, or has plans, I'm looking to
build a simple transmitter/reciever for a science fair project. Please
email me --- jayo@tiac.net --- thanx!
73's
N1WAW clear (and listening for a reply)

1416. Re: Simulating old valves/tubes with FETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: pjml@swmis.nsw.ac.uk
Message-ID: <4grvqc$a4r@kwuz.nerc-keyworth.ac.uk>
Source record: 107044
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

Mike Addlesee (mda@cam-orl.co.uk) wrote:

: --
: I am looking for advice on FET based equivalent circuits to replace
: old valves/tubes. In particular I have a National HRO-M which uses
: several 6C6. What are the most important characteristics that need
: to be reproduced?
: -------------
: Mike Addlesee

There's something on this in mid-sixties versions of the RSGB "Amateur Radio techniques" books.

Some guy replaced the RF amp and oscillator/mixer of an Eddystone S640 with 2N3819-type devices.

Personally, i consider this sacrilege, like making plasticene arms and sticking them to the Venus de Milo and calling it an improvement...

//Pete Morgan-Lucas// G6WBJ
NERC Computer Services

1417. Free classified Ads at Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4grd7d$htp@news.accessone.com>
Source record: 107045
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.scanner,rec.radio.shortwave

We've added free "classified" ads to our freeware Ham Radio Online international "magazine" web site. We also have original feature stories, international ham radio newsletters, broadcast/SWL info, REAL-TIME world-wide propagation resources including MUFs, aurora, geomagnetic field conditions and tons more stuff.

The March stories will begin by the end of the coming weekend. Stop on by and check out the new Ham Radio Online Interactive section - where you can add your own messages and your own ads, DX announcements, VHF band openings or whatever.

Please enjoy,
73, Ed, KF7VY

---
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free, at
http://www.accessone.com/~vbook/hronline.htm

1418. Re: Help with Heath VTVM!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-250296215018@160.205.101.24>
Source record: 107046

In article <4gj9k5$nrs@detroit.freenet.org>, af104@detroit.freenet.org (Jeffrey L. Bauman) wrote:
>
> I'm having the dumb problem of not being able to swing the
> needle all the way over to the 1.5V marker by adjusting the DC
> calibrate pot. All wiring is correct, and the 12AU7 is just
> fine.

Jeff, when you say the 12UA7 is "just fine", does this mean you checked it with a tube tester? If you did use a tube tester, was it a dynamic transconductance type (Military TV-7, Hickok 538, etc.) or the old GOOD-?-BAD style emission tester so popular in Radio Shack stores 20 years ago? If your 12AU7 has low transconductance in either triode section, you may not have enough differential gain to get full scale deflection on the meter.

> Double checked the wiring - it's correct, with no apperent
> cold solder joints. Correct components in place.

> I wired this myself recently, and just cant "calibrate" the
> meter.

I don't think Heath has made any VTVM kit for some years now. Assuming your kit sat unbuilt on someone's shelf for a long time, there's a slight chance that the fixed resistors used on the plate and cathode sides of the 12AU7 may have gone out of tolerance. A quick check w/ a friend's ohmmeter should be able to check this possibility out.

> Anyone know of any mods / errata on this VTVM? it
> 's the wide one with the large meter. The box pivots in a
> "U" shaped mounting bracket.

I'm personally not aware of any errata w/ your VTVM...I'd think it unlikely though, as the circuitry in your meter has gotta be almost identical w/ what's in the IM-18 I built over 20 years ago.

FWIW there have been a few aftermarket mods for the Heath and other similar topology VTVMs from other manufacturers, most notably the battery eliminator circuits intended to replace the D cell w/ a regulated 1.5 volt DC source. Heath for a time in the '70s offered a solid state conversion kit for their VTVMs as well; this kit consisted of two custom modules which replaced the 6AL5 & 12AU7, along w/ a resistor mod to the diode bleeder string.

> Probe is fine. 1.5V voltage source fine. This is stupid, but
> just can't get it to calibrate!

Oh, one last thing - have you checked the various voltages in the VTVM
against the values printed on the schematic?

> Thanks,

> Jeff
> WB5KZW

Good luck -

TGB

\\ The opinions expressed herein are my own. //

1419. Re: Need Recommendation for DSP Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: miker@nrv.net
Message-ID: <4grhn6$na4@kirk.nrv.net>
Source record: 107047

In article <uid.55.312CB9CE@ornl.gov>, uid@ornl.gov says...
>
>I need a recommendation for a compact DSP unit for 2.7 KHz Bandwidth SSB
>transceiver only. I thought about robbing a Radio Shack unit of the
components
>needed just for my homebrew application.
>
>Any recommendations for DSP chips which already have the code in them
and I
>can design around them?
>
>Danny Britton
>qb7@ornl.gov
>

It really depends on the application you are planning in your tranceiver. I use the Ti Tms320C50 DSK for some voice applications but it is crippled by the slow sample rate analog interface. It is priced at $99.00 and includes a simple assembler and debugger. Although the price is fair the Motorola 56002EVM is a better deal at about $150.00. This is a 24 bit processor running at 50Mhz with the Crystal semi. analog interface. It samples up to 48khz opposed to 19khz (I think for the Ti). It comes with a nice assembler with a lot of internal functions and the Domain Tech. Debugger. I have sent requests for help to both companies and only got answers to them from Motorola. The Motorola is also stereo which probably won't effect your application. The Ti's interface with the host computer is a very simple one and not nearly as nice as the 56002EVM. Ti does have an EVM for the C50 also but I don't think it will compete in price with the 56002 because I got a $100.00 coupon toward it with the dsk and you normally don't get a 100 dollar coupon for a 150 dollar item.

The Analog Devices starter kit is also priced low but when I checked out their dsp products you had to buy the reference books from a 3'rd party and Ti and Motorola books are free for the asking.

1420. Homebrew earphone - Mike

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: mvenable@aol.com
Message-ID: <4grm8r$gi3@newsbf02.news.aol.com>
Source record: 107048

I want to use my 2-meter HT while motorcycle mobile. I also wear a full face helmet. The helmet speaker/microphone conversions are pretty pricey. I've seen ads for earphones that work as mikes (also expensive). Seems like a good do-it-yourself project. Does anyone know how to homebrew an earphone-mike that will work under the helmet?

Thanks and 73

Mark Venable N1RSK

1421. Re: 15pin video, want to use old monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4gsaqh$nqm@service2.uky.edu>
Source record: 107049

In article <4gnt6c$jip@cloner2.ix.netcom.com>, timhynde@ix.netcom.com(Tim Hynde ka8ddz/qrp Rochester, MI) says:
>
>
> I've got an old laptop (386) Im going to dedicate to the ham shack,
>mostly to run Hamcomm, Baycomm, and perhaps JVFAX. It has a 15 pin
>output for a VGA monitor, since everything I'm running is CGA and even
>then, mostly text based I want to use an amber monitor pulled out of a
>terminal. As best I can tell there are 3 inputs to the monitor for
>horz,vert, and video. (I may not have those terms correct but I know
>they are the minimum nessesary) I've successfully connected it to an
>old Sinclair Z-80, but dont want to blow the video out of the laptop.
>
>Any suggestions on which pins will provide the nessesary signals. I'm
>just not up on the types of signals comming from the 15 pin video out.
>
>Thanks for any and all input.
>
>73, Tim
>ka8ddz
LAter today I will try to Email the VGA pinout for a
HD(high density)DB15. Sadly, you are going to run into e problem that
stoped me when I was given an IBM PS1. VGA horizontal starts out at
about twice the horizontal of CGA. CGA is 15750HZ and VGA is 31,500Hz.
Then there is the fun of vertical. CGA is 60.0Hz, while VGA runs from
60 to 70 hz, with the sync polarity changing again depending on mode.
Super VGA has the same pin out as VGA, but, H freq runs from 35,370
up to as high as 60,800. I am a TV Engineer and aster frying several
CGA(actually monochrome green and ambers)monitors, I just gave up an
scrounged up a VGA monitor.
Good Luck
The figures I quated are from a 'PC Hardware' handbook, in the subsection
on Video Standards. I have seen slightly different figures in some
IBM documentation once, but, if memory serves correctly, they all
are withen a few percent of each other.
up to

1422. WANTED: ICOM T21A & IC-2000H mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: mlamb@sunny.ncmc.cc.mi.us
Message-ID: <4gsd01$gi7@srvr1.engin.umich.edu>
Source record: 107050

Please email mods to mlamb@sunny.ncmc.cc.mi.us. Thanks!

73, KB8VBA

1423. Re: Homebrew earphone - Mike

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4gsejk$f2l@reader2.ix.netcom.com>
Source record: 107051

In <4grm8r$gi3@newsbf02.news.aol.com> mvenable@aol.com (MVenable) writes:
>
>I want to use my 2-meter HT while motorcycle mobile. I also wear a full
>face helmet. The helmet speaker/microphone conversions are pretty pricey.
>I've seen ads for earphones that work as mikes (also expensive). Seems
>like a good do-it-yourself project. Does anyone know how to homebrew an
>earphone-mike that will work under the helmet?
>
>Thanks and 73
>
>Mark Venable N1RSK
>

Hi Mark:

I used to ride and had a Bell full face, I used a simple electret mike element glued into the chin portion of the helment, the speaker used was a simple 2" flat style I picked up at a hamfest. I did have to dig out a little of the cushion inside the helmet.

The most unique portion however was a differential circuit made which took the input from another mike element mounted on the side of the helmet just under the lip. With motor noise comming into both elements the differential circuit only passed my voice to the rig (Well not 100% obviously) but WOW what a difference! Without it there was too much engine noise to have a decent QSO.

The rest was just simple switching, I ran the PTT to a snap action micro-switch near the horn. Hope this gives you some ideas. Good Luck

Tim, ka8ddz

1424. Re: Need Recommendation for DSP Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb26.151137.2238@ke4zv.atl.ga.us>
Source record: 107052

In article <4gq1pn$3n9@alterdial.UU.NET> David Nulton <dnult@axiom.net> writes:
>For audio DSP - the Texas Instruments TMS320C(10,20,30) chips are
>the best (IMHO). There is also a large collection of TMS320
>programs and discussion associated with audio filters and other
>DSP stuff. As far as a DSP chip with stuff already in it, I don't
>know of any. You must write a program, assemble and program the
>chip.
>
>For assembly, TASM is a freeware assembler that handles the 320 in
>addition to other popular uPs. I believe the EEPROM version of
>the TMS320 can be adapted to a 27c256 or simular EEPROM
>programmer. If you really want to get into it, TI offers some
>development kits with already assembled boards and PC software to
>plug and play you programs for about $100 if I remember correctly.

The TI chip is good, but I think the Analog Devices chipset is
even better, and the development kit is $89. (As a bonus, this
chipset is used on some soundcards for the PC, which is really
convienent if you're doing a demodulator for digital data or
an audio spectrum analyzer or FAX or SSTV or whatever, and will
be interfacing to a PC anyway.)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1425. Re: Need Recommendation for DSP Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb26.152757.2364@ke4zv.atl.ga.us>
Source record: 107053

In article <4grhn6$na4@kirk.nrv.net> miker@nrv.net (Mike) writes:
>
>The Analog Devices starter kit is also priced low but when I checked out
>their dsp products you had to buy the reference books from a 3'rd party
>and Ti and Motorola books are free for the asking.

Yeah, you have to buy the books, but they're *good*. I've got the
TI books and the AD books, and for a beginner in DSP, the AD books
are much better, worth the cost IMHO. I also think the AD chipset
is easier to program than the TI (though this may be more a matter
of style rather than substance). And the fact that you can buy PC
soundcards with the AD chipset on board makes them a tempting target
for demodulators, FAX, SSTV, audio spectrum analyzers, etc.

I haven't dabbled with the Motorola chips yet, so I haven't formed
an opinion about them other than to note that they seem to appear
mostly in high end (high cost) products. I'm not sure what that
means.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1426. Re: Comb and interdigital filters for diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <4gsl27$ocs@canyon.sr.hp.com>
Source record: 107054

Elendir (elendir@enst.fr) wrote:

: I barely have the choice. I cannot place a pre-amp before the filter,
: and any loss will affect the noise figure. And outputing 10 W...

Vince,

Yes, you would certainly like to filter as early as possible. However, don't be *too* concerned about loss. On the receive side you are no doubt going to have a *system* noise temperature >= 3 dB because of your antenna pointing toward 290 degree terra firma. Therefor even if you use a .5 dB NF preamp, you will not significantly improve system performance. This also means that you are not as sensitive to a loss as if you actually had a .5 dB NF system.

I'm not suggesting that loss is unimportant but only that if it is fairly low below 1-2 dB, it probably will not have much impact on receive. Relaxing the loss requirments might help the filter design somewhat.

: I have done it. 3 should do the job (3 cavities). But the Q of a single
: rod cannot reach 1000 ?

I think you might get an unloaded Q even higher than that with rods but it probably won't compare to what you can get from a cavity until the rod and enclosure size approaches that of the cavity.

: The diplexer should be used for a repeater. It would perhaps be the
: first 23 cm repeater in France, and it would be multimode (FM, BLU).

This sounds like a good project. There was a similar multimode repeater (translator) in the San Francisco area several years ago but I think it did not get too much use. Hopefully you will have a site which can help generate more activity. 23 cm is a great band.

Glenn n6gn

1427. Re: Tunnel diodes: are they any good? If so, any circuits out there?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4gslam$l8r@kocrsv08.delcoelect.com>
Source record: 107055

Tunnel Diodes demonstrate negative resistance as the forward voltage increases. Although they can be designed for sizeable currents, the power level is limited by the low (typically tenths of a volt) level at which the quantum tunneling effect is demonstrated. Hewlett Packard used tunnel diodes for UHF/SHF oscillators and low-level amplifiers in some instruments 3 decades ago, but the Gunn diode and small geometry devices fill most applications today.

The quantum tunneling effect, like magnetic polarization, is probabilistically instantaneous and has no upper frequency limit. To demonstrate the effect, connect the diode to parallel resonant circuit having d.c. continuity and bias the device into the forward region. In the negative resistance region, oscillations will begin, and sustain.

1428. Pager Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: "joseph c. hawkins" <claven.den.mmc.com>
Message-ID: <4gsq6s$emt@tel.den.mmc.com>
Source record: 107056

Does anyone have any info (schematics) on Pagecom or Minitor II pagers?
Our Vol service has several in need of repair and any info would be
appreciated.

Thanks
Joe

1429. Re: 15pin video, want to use old monitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.825355588.1781.jwicklun@mycroftxxx.halcyon.com>
Source record: 107057

> just not up on the types of signals comming from the 15 pin video
out.
>
> Thanks for any and all input.
>
> 73, Tim
> ka8ddz
>
You didn't say which brand laptop you were using, but most manuals include pin out information in the back of the manual. In any case, my Zeos has the following pinout and it should be standard since all the monitors work interchangably.

pin1 Red signal
pin2 Green signal
pin3 Blue signal
pin4 MS2
pin5 Ground
pin6 R ground
pin7 G ground
pin8 B ground
pin9 reserved
pin10 ground
pin11 MS0
pin12 MS1
pin13 Horizontal sync
pin14 Vertical sync
pin15 not used

MS0 - MS2 are inputs to the computer provided by the display to indicate what type of display is connected. I don't know the codes off hand. But the signals, I think, are simply open or grounded.

Also as you can see there is no simple composite video, or combined intensity signal. Unless one of the MS codes makes the display go into a monochrome mode, you will have to pick one of the colors as your output (probably green).

Hope this is a start, but you'll hopefully get a few more clues somewhere else.

73....KI7RH

1430. Re: Iron -on Transfers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.825356085.3404.jwicklun@mycroftxxx.halcyon.com>
Source record: 107058

>
> Another problem that I've had is that registration of a double sided
> board can be a bit tuff. Don't give up, it can be done.
>
>
The standard technique for double sided boards is to tape both the top
and bottom films (transfer films with pattern on them) to a piece of
pcb material so that the pattern on the films is off the edge of pcb
material.. When taping the second film onto the pcb material
carefully align the two layers. Then simply slide the pcb material
that you want to etch between the two films and butt upto the other
piece of material. For extra safety in handling, you can then tape
the films to the work piece. This method works well for photo
exposure but should work equally well for dry transfer.

Jay

1431. Re: Need Globar Resistor Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: choffman@pelican.davlin.net
Message-ID: <DnEBBr.H2r@abs.net>
Source record: 107059

You should contact The Carborundum Company, Electric Products
Division, Box 664, Niagara Falls, NY 14302;
phone 716.278.2521 or fax ...2298.

Note, there are hundreds of types of non inductive resistors, so you
will no doubt need to have some specific applications in mind as you
persue information; otherwise you may get burried!
73
Ric K5SBU

jackg@xetron.com (Jack Giehl) wrote:

>Hi,

>I am looking for a supplier or an address/phone number for
>Globar resistors.

>Thanks, Jack, WB8BFS

1432. Re: Ideas on a power antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: choffman@pelican.davlin.net
Message-ID: <DnEBwL.I8J@abs.net>
Source record: 107060

Ok on your Lincoln. You can slot tune the rear window with a small
tuning network mounted on one side behind the rear seat. Less
ingnition noise in the rear. Good luck.

hillgen@remus.rutgers.edu (Fender) wrote:

>Here's my idea. I have a Lincoln Continental that I'm absolutely in love
>with and I really would like to have my 2m radio in it but I'm not too eager
>to slap a mag-mount on it or even (gasp) drill holes in it so i have an idea
>for a compromise. How feasable would it be to build some sort of matchbox
>so that I could run realtively low power (50 watts or less) at good SWR
>through the power antenna used for the FM stereo. I figure that if it works,
> I'd mount a second in the fender and it could retract out of the way when
>not in use. I figure that it would have a good ground plane but how
>would I achieve a good match? All advice appreciated! If this idea doesn't
>work out, anybody have any others for a rather inconspicuous antenna?
>
> Thanks!
> Jay
> N2OTK

1433. First QRP CW kit.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: brian_jones@uk.ibm.org
Message-ID: <4gsu79$144c@zen.hursley.ibm.com>
Source record: 107061

I'm looking to build a QRP CW transceiver preferably for 20m. Any reccomendations for a good kit for a first time builder. I can solder OK and probably manage fairly fine tracks but don't have a barrage of test equipment (except a good multimeter and an old 'scope which I'm pretty inexperienced at using).

I'd like something reasonably challenging but not to difficult to align with rudimentary gear which doesn't cost an arm and leg (and of course which will work VP9 on 1milliwatt at sunspot cycle low !!).

Brian Jones G0UKB - KB8YKJ

brian_jones@uk.ibm.com

1434. Where to find RF Chokes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: gss@scsn.net
Message-ID: <4gsjqb$mks@daryl.scsn.net>
Source record: 107062

I am building a 50s/60s vintage tube-type cw transmitter and after a long hard parts search, I finally have all the parts I need except for the rf chokes. I have called everywhere I knoe to call and have not had any luck. What I need is 1 1.0mH RFC such as a Miller 4652-E and 2 2.5 mH RFCs such as the Miller 4666-E. I have found out that these are still being made by Miller, but the best source I have found so far would have to order me 25 of each at $3.90 a piece! There has to be someplace to buy small quantities of these. Any source you know of would be greatly appreciated.

73,
Greg, KN4NO

1435. Necessary Bandwidth

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: nigel@ndavison.demon.co.uk
Message-ID: <825368159.4254@ndavison.demon.co.uk>
Source record: 107063

Hi,

Can somebody explain to me exactly what is meant by necessary bandwidth and how it is calculated, or is it just another way of expressing the conventional 3dB bandwidth?.

My understanding is that it is the necessary bandwidth required to enable satisfactory reception of a modulated signal. If this is so then is there an equation to calculate it?.

Thanks

Nigel

1436. Re: Where to find RF Chokes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: hanavin@stimpy.eecis.udel.edu
Message-ID: <4gt7nh$me4@louie.udel.edu>
Source record: 107064

In article <4gsjqb$mks@daryl.scsn.net>, Greg Snellgrove <gss@scsn.net> wrote:
>I am building a 50s/60s vintage tube-type cw transmitter and after a long
>hard parts search, I finally have all the parts I need except for the rf
>chokes. I have called everywhere I knoe to call and have not had any
>luck. What I need is 1 1.0mH RFC such as a Miller 4652-E and 2 2.5 mH
>RFCs such as the Miller 4666-E. I have found out that these are still
>being made by Miller, but the best source I have found so far would have
>to order me 25 of each at $3.90 a piece! There has to be someplace to buy
>small quantities of these. Any source you know of would be greatly
>appreciated.
>
>73,
>Greg, KN4NO
>
>

Try Mouser Electronics (1-800-346-6873). They sell 2.5 mh chokes,
similar to the J.W. Miller 4600 series. They cost $2.53 @ quanities
of one, and have no minimum order.

Good luck with the rig, I am building a 2e26 rig for 80m, maybe
we'll cross wires.

73, Chuck (WB3FJJ)

1437. kits for HF rigs (QRO or QRP)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: yee@mipg.upenn.edu
Message-ID: <YEE.96Feb26180403@picard.mipg.upenn.edu>
Source record: 107065

I would like to build an HF rig. Sadly, Heath is no longer around. Ideally, I would like to build a rig that is in the 100Watt class. Am I mistaken that no such kits are bing sold nowadays and that I would have to build from scratch if I wanted to build such a kit?

In the QRP class, I would like to build both CW and SSB rigs. What is out there that is multi-band? I have written for information about the Sierra from NorCal and now Wilderness. What other CW rigs should I be looking at? How about SSB rigs?

--
| 73 de Conway Yee, N2JWQ | DON'T
| EMAIL : yee@mipg.upenn.edu | TREAD
| TELEPHONE : | ON
| FAX : | ME!

1438. Re: 813 Xmtr for 160M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: Steve Benkoski <centrak@en.com>
Message-ID: <31323DA9.1499@en.com>
Source record: 107066

Brian Carling wrote:
>
> From: brian.carling@acenet.com
> "mail sometimes bounces here, please resend if needed!"
>
> I once had an ART-13 - got it free at a hamfest, built a 28V DC supply
> for the autotune and put it on the air! Had a ball with it!
>
> FAIR RADIO is listed in my file MEGALIST.TXT aka MEGALIST.ZIP
> available as follows:
>
> Updated copies downloadable from BBSes at:
> (301) 681-7782, (301) 942-2218, (301) 299-3292, (301) 563-1306
> (301) 417-6952, (202) 619-1494, (202) 208-7679
>
> FTP site is at ftp.Lehigh.EDU. Login as anonymous, and use your
> e-mail address as the password.
> FTP: ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt
> WWW: http://qrp.cc.nd.edu/QRP-L/index.html
> WWW: http://www.nd.edu/~shideg/
>
> megalist.txt
> manuals.txt
> dealers.txt
> tubes.txt
> xtals.txt
> ========
>
> LD>> Fair Radio in Lima Ohio has the ART-13 available in surplus again for $150
> LD>It covers 2-18 Mhz
> LD>> (and is easily re-worked for 160 thru 10 meters) and uses an 813 modulated
> LD>with a pair of
> LD>> 811's. You might have more fun rebuilding the ART if you just want to run
> LD>the 813's!
>
> LD>Hey, I had one of these things many years ago. Watching the autotune
> LD>operate is more fun than a barrel of monkeys. What's the address for
> LD>Fair Radio?
>
> LD>Larry **************************
>
> The Evolution of Contemporary Thought:
>
> ----> McHale's Navy ->

> -> Mikhail Gorbachev ->
> ----------> Al Gore ->
> -------> Gore Vidal ->
> ----> Vidal Sassoon.....
>
> A natural progression!
>
> ---
> ï¿½ SLMR 2.1a ï¿½Hey, I managed to get 7 ART-13A's! 5 of them in near mint condition,two of them for parts. Also have a DRAKE 110vac power supply for the
ART-13A. I will trade of 3 of the nice ones in exchange for more old HF
stuff. Any takers?
Mark Foltarz KA4JVY

1439. Re: VHF LO Parasitic--common?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-26 00:00:00 UTC
From: Jim Potter <jpotter@jpaw.com>
Message-ID: <31320455.3CCE@jpaw.com>
Source record: 107067

I have not seen this phenomena, but it is very likely with high multiplication ratios to see a component at the crystal fundamental frequency. This can be annoying also. I once had to add a high Q resonant filter after a VCXO source at 425 MHz to keep the fundamental component from getting into a wideband modulator.

de K9GXC, Jim

--
James M. Potter, President E-mail: jpotter@jpaw.com
JP Accelerator Works, Inc. URL: http://www.jpaw.com/jpaw/
2245 47th Street Voice: 505-662-5804
Los Alamos, NM 87544-1604 FAX: 505-662-5210

1440. Re: Site for Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <3133B5D9.2781@pactitle.com>
Source record: 106979

Terry LaBrier wrote:
>
> Once, while surfing the Ham Radio Sites, I ran across a site for Mods
> for Kenwoods, etc. I have lost that site. I would appreicate knowing
> what sites may be out there for mods to ICOMS and Kenwoods. Thanks
> and 73.
> Terry
>
> **************************
> * Terry LaBrier, N0AHY *
> * tlabrier@minor.rnet.com *
> **************************

here is the sight you prob were in.....

http://oak.oakland.edu:8080/pub/hamradio
it's the best i've seen... 73 de dave booth. kc6wfs

http://www.lookup.com/Homepages/65348/home.html

1441. re: Homebrew GPS RX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9601278254.AA825439962@mail.creo.bc.ca>
Source record: 106980

In an earlier article David Shore asked:

> Hello, I wrote the original post about a homebuilt GPS. I can't find
> the backlogs of the UKW berichte journal anywhere on the i-net.
> Is there any more detailed information you can give me about this
> article?

I've never heard of UKW-Berichte being on the net (anybody? Ich spreche wenig Deutsch...), but the international edition, VHF Communications, is very much on the net. Visit:

http://www.taynet.co.uk/~gdx/ag/vhfcomm.htm

The full title of the series of articles is "A DIY Receiver for GPS and GLONASS Satellites". Say hi to Mike. Subscribe (Americans do it through ATV Quarterly) - it's a neat magazine!

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

1442. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: jachabas@pratique.FR
Message-ID: <199602272148.WAA02815@prat.iway.fr>
Source record: 106981

In article <4gi22t$fgq@news.dknet.dk>,
hho@olicom.dk (Henrik Holmgaard) wrote:

>Hi All
>
>Does anybody in this news group Where I can get information about
>Frankfurt VLF time standard: freq., time specifications, etc.
>if anybody have a ciurcit for at reciever to this Time standard.
>
>Henrik
>HHO@olicom.dk

Try reading: http://www.tu-bs.de/rz/sysadmin/dienste/ntp/clock.txt.html

73 from F6DYA

--
FRANCE PRATIQUE - http://www.pratique.fr

1443. Plessey SL6440 - near end of life?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: Roger L Traylor <Roger_L_Traylor@ccm.jf.intel.com>
Message-ID: <4gtno2$km3@news.jf.intel.com>
Source record: 107068

I have heard that the SL6440 balanced mixer made by GEC Plessey is to be discontinued soon. Has anybody heard any statement or rumor to this effect?

Any suggestions for a replacement in the future?

Thanks,

Roger Traylor
WB4TPW

1444. re: DCF77 standard time/frequency transm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <31332C64@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 107069

```
| >Hi All
| >
| >Does anybody in this news group Where I can get information about
| >Frankfurt VLF time standard: freq., time specifications, etc.
| >if anybody have a ciurcit for at reciever to this Time standard.
| >
| >Henrik
| >HHO@olicom.dk
| >
|
| Hi,
|
| Freq is 77 Khz (easy enough, it's called DCF77).
| Take a look at some Elektuur (or whatever it's called in your national
| language if there is an edition), you should be able to find
| more info.
| I have 2 clocks (one analog other digital) running on DCF77,
| nice gadget makrr are CITIZEN and JUNGHANS.
| There a lot of clocks available quite cheap from german company.
| Also interface for PC (and Mac ?).
| Hope it help,
| Thierry
```

hello all,

Am I right, the frequency is 77.5kHz (just for those who want to listen to it with a standard receiver). Its range is minimum 1500km around Frankfurt/Main (Germany). Some even expect 3000km, but shure this depends on the quality of the receiver.

The signal delivers time and frequency standards. Time is transmitted bit by bit with a signal level attenuation each second, (0=100ms duration of the attenuation, 1=200ms [maybe inverted?]). To identify the zero second pulse the preceding 59th second is not pulsed. This data stream is really easy to handle with any microprocessor. The frequency standard is the 77.5kHz signal itself, it has an accuracy of some 10e-12 or so. Its sometimes difficulty to handle as the european television system's fith harmonic of the line frequency is very near to it (78.125kHz).

A lot of commerical products are available here in Germany. As mentioned by Thierry a lot of wall watches (even in the range of DM 25,- from supermarkets, so cheaper than conventional crystal controlled systems), alarm clocks (in the range between DM 20,- and DM 50,-) and also hand watches (a little more expensive).

There are also some homebrew shops which offer kits for DCF77 reception. A wide variety is offered by Conrad Electronics, so e.g. the inside of an arm watch, about 30mm dia and 4mm high (app. DM 30,-) to include in your own products (I have one replacing my broken clock in the motorcylce), a lot of digital receivers to interface to computers and more.

As far as I know the there are two free software products which are able to sychronize your PC, one comes from Germany and one from Switzerland (Sorry, do not know more now, but I have both at home). Both are a small (1k) TSR which receive digital inputs at any bit at any selectable port (e.g. a free bit at your mouse interface or gameport) and synchronizes the PC time as soos as a valid time was received. For the reception you can take one of the receiver kits mentioned above, I also successed in converting a DM 20,- alarm clock into a continous, PC powered receiver. (In fact, even if most of these clocks use ferrite antennas abt. 2cm long 4mm dia they really work beautyful besides PCs).

I use one to set the clock in my packet radio mailbox DB0KCP, another one is used to synchronize my Meteosat receptions. Soon we will also use one for the power switch of DB0FAI, a 1kW ERP high power beacon, which is operated by DL5MCG and me. I wrote software routines for a decoding on a 8751 microprocessor, noting easier than that...

So thats some information about standard time and frequency reception in central Europe. Hope to enjoy!

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
dl4mea@amsat.org (Internet)
http://www.scn.de/~koellner (WWW)

1445. 11 to 6 Meter??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: sarnold@nbed.nb.ca
Message-ID: <4gv9if$sld@darwin.nbnet.nb.ca>
Source record: 107070

Anyone know if it's possible to convert CB's to 6 meters? And if so, some examples of model numbers and where the surgical information may be obtained in order to do so.

Many thanks.
Scott
VE1CSA

C. Scott Arnold
New Brunswick Department Of Education
Technical Support sarnold@nbed.nb.ca (506) 453-2319
OPINIONS EXPRESSED IN THIS MAIL ARE MINE, NOT MY EMPLOYERS'

1446. Need Recommendation for DSP Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: socci@bns101.bng.ge.COM
Message-ID: <9602271143.AA02676@bns101.bng.ge.com>
Source record: 107071

Gary Coffman writes ....

>The TI chip is good, but I think the Analog Devices chipset is
>even better, and the development kit is $89. (As a bonus, this
>chipset is used on some soundcards for the PC, which is really
>convienent if you're doing a demodulator for digital data or
>an audio spectrum analyzer or FAX or SSTV or whatever, and will
>be interfacing to a PC anyway.)
>
>Gary
>-

Does anyone out there have any experience performing packet communication
using a DSP design? (or else know of anyone who has)
I am currently trying to develop a DSP system to run packet, and I'm
wondering what kind of modem algorithms would be best.
Ideally, I would use a sound card, but right now, I'm just messing with
stand-alone DSP systems.
Looks like I'm biased towards the Analog Devices. After comparing the
architecture with the TI, I think it would be a lot easier to use the AD.
This is for a school project, so I am not just riding a "Wouldn't it be nice to"
cloud. I really have to build one.

Direct email seems to be the best way to contact me, but feel free to respond
to this thread.

Vince

____
/ Vince Socci / Lockheed Martin Control Systems /|
/==============================/====================================/ /
/ 600 Main Street / Systems Engineer / /
/ Johnson City, New York / Advanced Controls Engineering / /
/ 13790-1888 / Email: socci@bns101.bng.ge.com / /
/ / Callsign: KB2UXU / /
/ Tel (607) 770-2828 / Marcall Tel: 8*255-2828 / /
/ Fax (607) 770-2213 / Marcall Fax: 8*255-2213 / /
/_______________________________/____________________________________/ /
|_______________________________/____________________________________|/

1447. WANTED: ICOM T21A & IC-2000H mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: mlamb@sunny.ncmc.cc.mi.us
Message-ID: <4gv2bp$dej@srvr1.engin.umich.edu>
Source record: 107072

Please email mods to mlamb@sunny.ncmc.cc.mi.us. Thanks!

73, KB8VBA

1448. Site for Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: tlabrier@minor.rnet.com
Message-ID: <4gv6ua$v5e@golden.adams.net>
Source record: 107073

Once, while surfing the Ham Radio Sites, I ran across a site for Mods
for Kenwoods, etc. I have lost that site. I would appreicate knowing
what sites may be out there for mods to ICOMS and Kenwoods. Thanks
and 73.
Terry

****
* Terry LaBrier, N0AHY *
* tlabrier@minor.rnet.com *
****

1449. Re: Necessary Bandwidth

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <4gvam1$o15@canyon.sr.hp.com>
Source record: 107074

Nigel Davison (nigel@ndavison.demon.co.uk) wrote:
: Hi,

: Can somebody explain to me exactly what is meant by necessary
: bandwidth and how it is calculated, or is it just another way of
: expressing the conventional 3dB bandwidth?.

: My understanding is that it is the necessary bandwidth required to
: enable satisfactory reception of a modulated signal. If this is so
: then is there an equation to calculate it?.
:

Nigel

I suppose the term might be construed to mean "how much spectrum a particular modulated signal occupies" using a 3 dB-down or 26 dB-down or some other measure but my normal understanding of it would relate to how much spectrum is necessary for a given signalling rate (baud).

The Nyquist bandwidth deals with how much spectrum is required for a particular signalling rate but the *information* bandwidth depends upon S/N as described by Shannon.

See my ARRL conference paper:

ftp://col.hp.com/hamradio/packet/n6gn/arrlcnc/cnc.html

and select the paper "Physical Layer Considerations in building an Amateur Radio Network" if you would like more details.

Glenn n6gn

1450. [Q] Frequency of Jupitor emissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: gherbst@msn.com
Message-ID: <NEWTNews.825458061.6693.Postmaster@GGHERB.MONSANTO.COM>
Source record: 107075
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

Hi All:

Anyone know what frequence emissions from Jupitor may
be picked up on. Also, is there equipment that can
be bought or built cheaply to do such. As I recall I thought
I saw mentioned in a trade rag 18Mhz - 22Mhz...

Thanks,

Gary-

1451. Re: Necessary Bandwidth

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb27.170413.7681@ke4zv.atl.ga.us>
Source record: 107076

In article <825368159.4254@ndavison.demon.co.uk> nigel@ndavison.demon.co.uk (Nigel Davison) writes:
>
>Can somebody explain to me exactly what is meant by necessary
>bandwidth and how it is calculated, or is it just another way of
>expressing the conventional 3dB bandwidth?.

My books say that it is the bandwidth where the signal energy
has fallen 22 db from peak, or alternately, the bandwidth that
contains 99% of the signal energy of the emission, whichever is
greater.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1452. Re: FM-10 question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: mgarrett@prairienet.org
Message-ID: <4gvc3k$p1p@vixen.cso.uiuc.edu>
Source record: 107077

In a previous article, craigivey@aol.com (CraigIvey) says:

>I have a FM-10 (rev. F) that drifts. I read in the FM-10 FAQ that the
>frequency selecting capacitor can be swapped out with a more stable one
>(tantalum, silver mica, polystyren). Also the diodes can be swapped out
>with a zener diode.
>
>What type of capacitor and zener diode do I need to get and where can I
>get it?
>
>CraigIvey@aol.com
>
The capacitors you can get from Newark but you will have to deal with a
minimum order (I believe around $25). You should be able to pick up
the caps at a local electronic parts dealer if you have one in your area.
You might also be able to pick up the 3 volt zener there too. I did have
one question, what type of container do you have your FM-10 in? If you
have it in the plastic one that Ramsey supplies it helps but if it is in
a metal box and the antenna is brought out thru a connector and mounted
away from other metal objects (and humans-they tend to cause possible
detuning) that might help. Other items to note would be if you are using
batteries or a regulated power supply.
I have a friend I built one of these for and he is using the Ramsey supplied
case, a regulated power supply and has mounted on a shelf. He never turns
the unit off and has had no problems with keeping the unit stable. In fact
I have not reset it for him in over a year now.
--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

1453. DDS VFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-27 00:00:00 UTC
From: tmaldred@mail.comox.island.net
Message-ID: <31334283.68225857@news.comox.island.net>
Source record: 107078

Greetings to everyone that reads this:

I am wondering if anyone can recommend a single unit quantity
source for the Harris Semiconductor HSPA5102 DDS and CA3338 DAC chips
that are utilized in the DIGIVFO and DIGIBRAIN QST articles. Digikey
does not carry the DDS but does have the DAC.

I would like to build my own variation of the DDS thus do not
wish to buy one of the kits as offered in the articles.

73 de VE7TMA

E-mail: tmaldread@mail.comox.island.net
packet: VE7TMA@VE7KGW.#NVI.BC.CAN.NA

1454. Re: [Q] Frequency of Jupitor emissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: "David W. Knisely" <dk84538@ltec.net>
Message-ID: <4h0qd2$p2u@iac2.ltec.net>
Source record: 106982
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

Hi there. The Decameter radio bursts do not stay on a particular frequency. They are quite broad banded and move in frequency as time goes on. 22 Mhz is a good place to look, but it also has some broadcast stations on when the ionosphere is refractive to those freqencies. It is best heard on a broad band AM shortwave receiver with a directional antenna (like a Yagi or a loop) pointed at Jupiter. The emissions are very irregular, and seem to be most often observed when the moon IO is in certain positions around the planet.

David Knisely, Prairie Astronomy Club, Inc.

1455. TM231: where is memory battery?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: skorzep@magicnet.net
Message-ID: <4h08bu$shs@comet2.magicnet.net>
Source record: 106983

Does anyone know where inside the Kenwood TM231A 2 meter transciever
the battery used for memory power is located?

Appreciate any help and any suggestions on how to remove front PC board
if battery is located on that board.

Stan
skorzep@magicnet.net

1456. Marconi Signal Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.252.000D6A18@TRL.OZ.AU>
Source record: 106984

Looking for operator's/service manual- or at least circuit schematic, for Marconi Signal Generator, 10 kHz - 72 MHz, model TF144H/(4S) (military CT452A).

Any assistance would be greatly appreciated. All costs refunded.

73, Drew Diamond, VK3XU.

1457. vfo230 - ts830s cable?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: paul1@news.sfu.ca
Message-ID: <4h0v1h$1cb@morgoth.sfu.ca>
Source record: 106985

I'm having trouble tracking down a cable for the vfo230 - ts830s combo.
Has anyone had any experience building one?

cheers, Paul
ve7cqk
email: paul1@wizard.ucs.sfu.ca

1458. Homebrew GPS receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: bycheung@asiaonline.net
Message-ID: <4h0sjd$d14@news.asiaonline.net>
Source record: 106986

Would like to have information on making a GPS receiver by my own.

Thanks for helping anyway.

1459. WARP WAS-1 AUTO-SWR SCHEMATICS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: daly@eagle.rtc-waterford.IE
Message-ID: <9602281247.AA12763@eagle.rtc-waterford.ie>
Source record: 106987

I HAVE A WARP WAS-1 AUTO-SWR METER (THE ONE WITH REMOTE SENSORS)
SOME OF THE WIRES INSIDE IT HAVE BEEN CUT AND I HAVE NO REMOTE
SENSORS (YOU HAVE TO HAVE REMOTE SENSORS BECAUSE IT HAS NO OTHER SOCKETS)
I WAS WONDERING IF ANYBODY COULD GET SCHEMATICS FOR IT!
I WOULD REALLY LIKE TO FIX IT...I AM WILLING TO COVER ANY COPYING AND
POSTAGE OR ANY OTHER COSTS.
SORRY FOR ADDING EXTRA MAIL TO THE LIST! THANKS IN ADVANCE

WARREN EI6ETB

daly@eagle.rtc-waterford.ie

ps. I might be able to build the remote sensors? after I fix the other bits..

1460. WANTED: ICOM T21A & IC-2000H mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: mlamb@sunny.ncmc.cc.mi.us
Message-ID: <4h1kbs$7ir@srvr1.engin.umich.edu>
Source record: 106988

Please email mods to mlamb@sunny.ncmc.cc.mi.us. Thanks!

73, KB8VBA

1461. Re: Where to find RF Chokes?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: jmf@visi.com
Message-ID: <4h0g1l$mfu@news.visi.com>
Source record: 106989

gss@scsn.net (Greg Snellgrove) wrote:

>I am building a 50s/60s vintage tube-type cw transmitter and after a long
>hard parts search, I finally have all the parts I need except for the rf
>chokes. I have called everywhere I knoe to call and have not had any
>luck. What I need is 1 1.0mH RFC such as a Miller 4652-E and 2 2.5 mH
>RFCs such as the Miller 4666-E. I have found out that these are still
>being made by Miller, but the best source I have found so far would have
>to order me 25 of each at $3.90 a piece! There has to be someplace to buy
>small quantities of these. Any source you know of would be greatly
>appreciated.

Ocean State Electronics has the 4666 in their catalog, priced at $4.30
each. They don't show the 4652, but you might call them and see if
they carry it.

They also carry the Miller 70F- series of RF chokes, priced from $1.10
to $3.55 each, depending on inductance.

Ocean State Electronics
PO Box 1458
Westerley, RI 02891

(401) 596-3080 or 1-800-866-6626 (order line)
(401) 596-3590 fax

Hope this helps.

73s,

Joe Fishbein WD9GRK
jmf@visi.com

1462. Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: cnc23a@b4pph13e.bnr.ca
Message-ID: <4h1tmr$n7p@crchh327.rich.bnr.ca>
Source record: 106990
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

A few years ago ther was alot of talk about Amplitude Compandored Single-Side Band communications.

Haven't heard much about it lately.

Any pointers on info ?

--
==========

Ken M. Edwards, PE Nortel, Research Triangle Park, NC
(919) 905-4769 email: cnc23a@bnr.ca

All opinions are my own and do not necessarily reflect the views of my employer or co-workers, family, friends, congress, or president.

1463. Help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: jblane01@harris.com
Message-ID: <jblane01.65.00A32BF6@harris.com>
Source record: 106991

Hi folks,
I�am new here so forgive me if I sound stupid.
Does anyone have details on how to build a � very basic � Short-wave Reviver
(Crystal set type of thing). Any details on WWW sites, Kit�s, any information
at all would be appreciated.

```
---------------------------------------------------------------
James Blaney Why is the universe here ?
Harris Ireland. Why ?, where else would it be !
---------------------------------------------------------------
Fax : Intl. + 353 42 32532 Call : Intl. + 353 42 35401
E-Mail : jblane01@harris.com
These are my opinions,
and not those of Harris Semiconductor.
---------------------------------------------------------------
```

1464. Need attenuator for HP8551

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4h230j$qhr@newsbf02.news.aol.com>
Source record: 106992

The attenuator is for my deceased one in my HP 8551 spectrum analyzer. It
is
an
"N" coaxial type and it covers from 10 mhz to 10ghz. I guess any
substitute
could be pressed into service. Because of its age I will take what I can
get.

Thanks beforehand

-Viny Coppola

1465. Re: MOSFET X-Ref: help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@biggulp.callamer.com>
Message-ID: <Pine.OSF.3.91.960228150812.10933E-100000@biggulp.callamer.com>
Source record: 106993

Both Samsung and IRC make this same unit. It is very commonly used
Cliff Buttschardt W6HDO

On 23 Feb 1996, Thomas C. J. Sefranek wrote:

> Try MTP30N06
>
> Motorola
>
> See the Motorola Power FETs web site for specifications
>
> Tom
>
>
>
>

1466. Re: ### KISS on a Baycom?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: p26888@po13.geg.mot.com
Message-ID: <4h2008$82q@newdelph.cig.mot.com>
Source record: 106994

Max Lock <csd3cr@herts.ac.uk> wrote:

> Nope, as far as I know, theres no way possible to "do" a baycom on
>Linux, beacause it's a multithreaded OS. Baycom relies on interrupts to
>it's native DOS environment, and the Linux system has no way to this.

> I think i'm on the right path here, corect me if I'm wrong :)

Linux is not a multithreaded OS, though there are ports of pthreads to
support threaded programming and I believe Linus is working on some
more native threading things in the kernel.

You can hook an interrupt in Linux by simply writing a kernel driver.
It's also been made very easy to write kernel drivers since the
loadable kernel module support has matured a great deal.

This is an interesting coincidence that this topic came up...I was
just starting to look into what it would take to write such a driver.

--
Matt Porter KB8UVI
Motorola GSTG p26888@po13.geg.mot.com

1467. Re: 11 to 6 Meter??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8255574286501@lss.humnet.humberc.on.ca>
Source record: 106995

> Anyone know if it's possible to convert CB's to 6 meters? And if so, some
> examples of model numbers and where the surgical information may be obtained
> in order to do so.
>
> Many thanks.
> Scott
> VE1CSA
>

Hi Scott, there was a mod floating around a couple of years ago for a
mod to convert a particular Cybernet 40 channel SSB chassis (AKA the
infamous PLL02A chassis) to 6 meters by a group out of Australia.
I did 2 of these and it does work however it isn't without quirks.
ie.. USB and LSB become inverted because of low side injection instead
of the normal high side, clarifier works in reverse ect...
The mixing scheme of these radios is such that if you mess around with
the post mixer filtering you can get the sum of the mix rather than the
difference which puts you around 48 MHz (the difference puts you
on 27 MHz.). A small crystal change will put you onto 6M !
You have to be prepared to pull out several coils and remove some turns
on them as well as some capacitor substitutions in the front end and
TX RF amp. It gets pretty involved and I would say that the CB would end
up as a basket case unless you are confident with your RF knowledge and
skills along with the ability to follow the mod directions very closely.
I will see if I can find it here and e-mail it to you if you're
interested.

Regards...

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

1468. Re: Homebrew earphone - Mike

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-28 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1996Feb28.075301.19659@grian.cps.altadena.ca.us>
Source record: 106996

timhynde@ix.netcom.com(Tim Hynde ka8ddz/qrp Rochester, MI) writes:

>In <4grm8r$gi3@newsbf02.news.aol.com> mvenable@aol.com (MVenable) writes:
>>
>>I want to use my 2-meter HT while motorcycle mobile. I also wear a full
>>face helmet. The helmet speaker/microphone conversions are pretty pricey.
>>I've seen ads for earphones that work as mikes (also expensive). Seems
>>like a good do-it-yourself project. Does anyone know how to homebrew an
>>earphone-mike that will work under the helmet?
>>
>>Thanks and 73
>>
>>Mark Venable N1RSK
>>

>Hi Mark:

>I used to ride and had a Bell full face, I used a simple electret mike
>element glued into the chin portion of the helment, the speaker used
>was a simple 2" flat style I picked up at a hamfest. I did have to dig
>out a little of the cushion inside the helmet.

>The most unique portion however was a differential circuit made which
>took the input from another mike element mounted on the side of the
>helmet just under the lip. With motor noise comming into both elements
>the differential circuit only passed my voice to the rig (Well not 100%
>obviously) but WOW what a difference! Without it there was too much
>engine noise to have a decent QSO.

>The rest was just simple switching, I ran the PTT to a snap action
>micro-switch near the horn. Hope this gives you some ideas. Good Luck

Years ago I ran a Honda twin with a 2m and 220mhz mobile. I took the
starter button wires, ran them to a 3P3T switch, and ran one
side to the starter, the other side to the radio. The switch was
mounted by the right mirror on a small bracket that I made out of
cheap angle iron. For a microphone I mounted a electret cartridge in the
chin piece foam on a Bell clone helmet, and for received audio I
had an earphone. Make sure your radio unhooks the built in mic cartridge
when the external in plugged in - some don't.
For the antenna I glued a length of enameled wire to the edge of the
fairing windscreen. Later on I put a Larsen motorcycle antenna
(1/2 wave - no ground plane) on a saddlebag top. 2m on the left, 220mhz
on the right.

Sample schematic:
0-------radio 220mhz PTT circuit
+----------------------0---->0----original bike starter wiring
starter ! 0-------radio 2m PTT circuit
button !
! !
! ! 0-------radio 220m PTT circuit
+----------------------0---->0----original bike starter wiring
! 0-------radio 2m PTT circuit
!
! 0------- 220mhz radio
fused 12v ------0---->0---- green light (i.e. engine start)
0------- 2m radio
--

Mike Morris morris@grian.cps.altadena.ca.us
#include <disclaimer.std.h> I have others, but this works the best.
This message assembled from 100% recycled electrons (and pixels).

1469. The Weak Signal Challenge - 1 Year, No Winner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: mwcook@cris.com
Message-ID: <4h35t9$b5t@spectator.cris.com>
Source record: 106997
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,aus.radio.amateur.misc,uk.radio.amateur

The Weak Signal Challenge - 1 Year, No Winner

For the last year, I have sponsored a weak signal contest from my web page (http://www.webcom.com/~af9y/). Hundreds have attempted to extract the call of this weak Morse code signal using various signal processing techniques. So far, all have failed. I know it is possible to extract the call letters using a combination of signal processing and the "ears" of a well trained operator.

I am now increasing the prize to $100 for the first correct identification of the calling station. I believe the winner will have to break new ground in signal processing techniques. I've made available a text list of all possible calls to neutralize any recognition advantage that an experienced operator would have.

The challenge is a one minute digitized recording of a weak moonbounce signal. The Morse code signal is just above the noise but is strong enough to allow copy of my call letters (AF9Y) near the middle of the one minute period. The mystery station is sending a simple repeat of his call and my call. The characters "DE" may or may not be between the two calls.

The file is called unkn422.wav and is available from:

http://www.webcom.com/~af9y

Additional information is available in the web page.

de Mike, AF9Y

http://www.webcom.com/af9y
Work: mwcook@itt.com
Home: mwcook@cris.com

1470. Source of MMICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: hamop@aztec.asu.edu
Message-ID: <4h38as$sp7@news.asu.edu>
Source record: 106998

Can anyone suggest source in small quantities of
Avantec MSA cascadable MMICs or equivalent devices? Specifically
the Avantec MSA 0685 or equivalent.
I used these in the *Null Steerer* of my QST article in
July 1994 p 29 but have no response now from the sourvce mentioned
in my article.

Charlie, W7XC
--

1471. Re: Linear Amp Modifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: gary <design@thereporter.com>
Message-ID: <4h5amj$ms4@miwok.nbn.com>
Source record: 106999

Either this guy doesn't proofread his messages, or somehow has failed to realize that 75 meters is *already* within the 3-30 mhz range...

--
Gary.... *** I AM THE NRA! ***

1472. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: cj@hth.com
Message-ID: <4h4nlf$i65@prometheus.algonet.se>
Source record: 107000
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.html

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.html

[--- cut ---]
```

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
-------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=========================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

1473. Re: Linear Amp Modifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.82.00402C27@azstarnet.com>
Source record: 107001

In article <199602291444.GAA00993@UCSD.EDU> redbone@juno.COM (Douglas R Davis) writes:
>From: redbone@juno.COM (Douglas R Davis)
>Subject: Linear Amp Modifications?
>Date: 29 Feb 96 14:14:55 GMT

>How much trouble would it be to modify an amp made for use between 3-30 MHz,
>for use on, say...75 meters? Is it possible or economically feasible?

>Thanks.

Nope, don't even consider it.

1474. Re: advice needed on homebrew ATU

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.83.004B8F41@azstarnet.com>
Source record: 107002

In article <4h4kam$kb3@frigate.doc.ic.ac.uk> Paris Michael Andreou <pma@doc.ic.ac.uk>
writes:
>From: Paris Michael Andreou <pma@doc.ic.ac.uk>
>Subject: advice needed on homebrew ATU
>Date: 29 Feb 1996 16:30:14 GMT

>Dear all,

>hello. To all the hi-power experts out there:

>I want to construct an ATU, handling up to 1KW. I started searching for
> capacitors, but I am not sure what to look for. How does the voltage
>rating and/or spacing of air-caps relate to power handling?
>I was recently reading an article on atu construction tips, and the author
>suggested that for severe mismatches at high power , the RF across a cap in a
>T-match could be up to 5000V. (the article was from a US amateur, so I take
>hi-power to be 1.5KW).So, if I understand well, the degree of mismatch you want
>your ATU to handle is also a critical factor in the voltage tolerance.

Yes the mismatch makes a significant difference and it is not just the SWR
that matters, but what the impedance is that causes the SWR. A tuner might
handle a much higher mismatch in one area of the Smith chart than another.

> Any advice from the gurus on how to pick the capacitors? Is there data in the
> literature I can look it up?

If you can find or afford them, vacuum capacitors are the way to go. The
voltage ratings are high, there are no sliding contacts and the minimum
capacitances are low.

> Another thing: can capacitors with the same spacing have different voltage
> rating? I have seen adverts of 2mm spacing capacitors with ratings of 4KV and
> 7.8KV. It doesn't look reasonable.

It's possible. It can depend on the thickness of the plates and their finish.
Thicker plates with radiused and polished surfaces will withstand higher
voltage before breakdown than will thin stamped plates with rough, sharp
surfaces and edges. The insulation supporting the fixed plates is a factor
too.

You must not forget the inductor either. Most of the loss in a well-designed
tuner will occur here.

Regards, Wes -- N7WS

1475. Re: 11 to 6 Meter??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4h4mu2$438@mksrv1.dseg.ti.com>
Source record: 107003

In article <4gv9if$sld@darwin.nbnet.nb.ca>, sarnold@nbed.nb.ca says...
>
>Anyone know if it's possible to convert CB's to 6 meters? And if so, some
>examples of model numbers and where the surgical information may be obtaine
>d
>in order to do so.
>

Scott,

Many years ago, one of the ham magazines (I don't remember which mag or what issue) published an article on converting the popular HyGain 40-channel CB boards to 6m FM. These boards were the same ones that thousands of hams bought to convert to 10m FM in the late 1970s and early 1980s, back when 10m had propagation.

I personally converted *dozens* of these boards to 10m FM (and made a small fortune doing it). They're easy to work on, straight-forward in design, and easy to come by.

I'm fairly sure the magazine in question was "73". Find someone who has a complete library of them going back to about 1977. Consult the December issue of each year for the Annual Index. Search there for the article. It is possible that this article was in QST or Ham Radio, but I'm leaning toward "73".

Good luck! 73 de KC5NG

1476. Radiokit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: mikemr
Message-ID: <4h4otf$onv@news.microsoft.com>
Source record: 107004

Has anyone tried to call them lately? Their line has been
continually busy for the past 2 days. I'm trying to find out
the status of their 9-band SB-220 mod kit, if anyone knows. tnx

73 Mike N6MZ mikemr@microsoft.com
--
The opinions expressed in this message are my own personal views
and do not reflect the official views of Microsoft Corporation.

1477. Direct conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: clifto@indep1.chi.il.us
Message-ID: <DnJxHL.H1@indep1.chi.il.us>
Source record: 107005

I've decided to try to design a MW broadcast-band receiver (at least in part to bolster my meager analog design skills), and it occurred to me that I might like to try using direct conversion. What are the issues, tradeoffs, etc. that might affect that decision?

My main objectives are high sensitivity, low noise and distortion, and selectivity as good as I can reasonably get it (in that order). I was thinking that direct conversion can help me avoid a lot of problems with LO nonlinearity and distortion products, etc. I also remember that many of the reasons it didn't fall into general consumer use were the expense of multi-gang tuning capacitors (which I bypass with nice, cheap varactors), the design tradeoffs in trying to get wide bandwidth out of tube circuits (of course I'll be using transistors and/or ICs) and some vaguely-remembered problems with detector design (I like the idea of synchronous detection; comments on that welcome as well).

If I remember right, there's also the problem with superhet that the optimal amount of LO injection is very different for weak signals than for strong ones, and that trying to vary it causes problems with dynamic range considerations. I'd like this thing to perform as well with the 50KW locals as with the 5KW station in Moose Jaw.

--
Cliff Sharp There are days when no matter which
WA9PDM way you spit, it's upwind.
clifto@indep1.chi.il.us --The First Law of Reality

1478. Can anyone ID these IF amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: bob@waterw.COM
Message-ID: <9602292038.AA08525@water.waterw.com>
Source record: 107006

Last night I picked up some IF amps at our club's White Elephant sale. They have RCA part numbers, but none of the retired RCA guys at the meeting had any idea what they were for. Markings are:

LOG IF AMPLIFIER
RHG ELECTRONICS LAB (15286)
MODEL NO. ICL60G23EA
RCA CORP P/N 5616449-5

The connectors are labeled: IF IN, -15V, RET, +15V, TP1, VID 1, VID 2, TP2.

The price was right (25 cents each), so it was worth the gamble that they might be something interesting.

Any info about specifications would be appreciated!

Tnx
Bob - WA2ZZX

Bob Applegate, bob@waterw.com
Water Wheel Systems
35A East Main Street, Suite 10
Marlton, NJ 08053
609-596-0032

1479. Re: Help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.99.051ACAF3@mindspring.com>
Source record: 107007

In article <jblane01.65.00A32BF6@harris.com> jblane01@harris.com (James Blaney) writes:
>Does anyone have details on how to build a very basic Short-wave Reviver
>(Crystal set type of thing). Any details on WWW sites, Kit s, any information
>at all would be appreciated.

I have built the MFJ 8100 SW Receiver KIT and am very impressed with its performance.
It is a "regenerative" receiver ... about as basic as you can get and still get Shortwave.
Takes about 2-4 nites to build, runs off a 9V battery into a set of Walkman-type headphones. Covers a lot of HAM and SW Broadcast bands.

Regards,
Ed

1480. Re: Linear Amp Modifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Feb29.185002.18107@ke4zv.atl.ga.us>
Source record: 107008

In article <199602291444.GAA00993@UCSD.EDU> redbone@juno.COM (Douglas R Davis) writes:
>How much trouble would it be to modify an amp made for use between 3-30 MHz,
>for use on, say...75 meters? Is it possible or economically feasible?

Well, the amp already covers 75 meters, IE 3.75-4.0 MHz, so no modifications
should be required. You'd probably (certainly!) want to make sure there's
a low pass filter on the output to suppress 2nd, 3rd, 4th, 5th, etc harmonics
in the output of the amplifier. Suitable filters are shown in the ARRL
Handbook.

It might be a good idea to modify the amplifier to improve its efficiency
on 75 meters, but the nature of any such mod would depend on the circuit
design used for the broadband amp. Likely it uses ferrite transformers,
and the reactance of the output transformer may be a bit lacking at the
low end of its design range. You might get better results by changing the
ferrite mix, or increasing the number of turns, primary and secondary,
on the transformer. RF bypass capacitors also might be marginal at the
low end of the range, and might benefit from having additional capacitance
placed in parallel with them. Careful here though, you could get into a
motorboating situation if you get carried away.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1481. Re: FRANKFURT VLF TIME STANDARD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDnLMo8.3w6@netcom.com>
Source record: 107009

in <4h1m3r$gpg@kocrsv08.delcoelect.com>, Tom V. Pfaffenbach wrote:
: In regard to a posting by Alain Chabas - The best VLF receivers that I
: have come across are the surplus Selective Voltmeters sold by Fair Radio
: out of Lima,Ohio, USA. I have a Hewlett-Packard 312B that I use on the HF
: bands 1.5-18 Mhz, and which I have occasionally tuned across the 10Khz to
: 500Khz range. There are a number of stations sending 3 letter morse
: identifiers in that region. I have not heard any time broadcasts - at
: least not in anything like the NIST-WWV format.

Tune to 60 kHz for WWVB. It's an combined pulse width amplitude/phase
modulation at a 1 Hz baud rate. Details of the modulation are in
"Reference Data for (Radio) Engineers", the book published by Sams.
Or from the bulletin published by NIST.

Since there's only one transmitter for the US in Colorado, signal
strength is nowhere near what the europeans can expect from their German
or UK (at Rugby, also on 60 kHz) transmissions.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1482. Linear Amp Modifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: redbone@juno.COM
Message-ID: <199602291444.GAA00993@UCSD.EDU>
Source record: 107010

How much trouble would it be to modify an amp made for use between 3-30 MHz, for use on, say...75 meters? Is it possible or economically feasible?

Thanks.

1483. kits for HF rigs (QRO or

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8723.546@acenet.com>
Source record: 107011

From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

Hi COnway... if you want to build kits try looking up all of the
suppliers in MEGALIST.TXT (see below)

CY>I would like to build an HF rig. Sadly, Heath is no longer around.
CY>Ideally, I would like to build a rig that is in the 100Watt class. Am
CY>I mistaken that no such kits are bing sold nowadays and that I would
CY>have to build from scratch if I wanted to build such a kit?

CY>In the QRP class, I would like to build both CW and SSB rigs. What is
CY>out there that is multi-band? I have written for information about
CY>the Sierra from NorCal and now Wilderness. What other CW rigs should
CY>I be looking at? How about SSB rigs?

CY> | 73 de Conway Yee, N2JWQ | DON'T

Updated copies downloadable from BBSes at:
(301) 681-7782, (301) 942-2218, (301) 299-3292, (301) 563-1306
(301) 417-6952, (202) 619-1494, (202) 208-7679, (301) 933-8251

FTP site is at ftp.Lehigh.EDU. Login as anonymous, and use your
e-mail address as the password.
FTP: ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
WWW: http://www.nd.edu/~shideg/

DOWNLOAD as MEGALIST.ZIP or individually as:
megalist.txt
manuals.txt
dealers.txt
tubes.txt
xtals.txt
========

* SLMR 2.1a * I gave my argument to the judge, Tom said briefly.

1484. Radio information!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8721.546@acenet.com>
Source record: 107012

If anyone is interested in getting some great info files via the
Internet system, I have the following available:

MEGALIST = A large list of sources for electronic parts, kits etc.
DEALERS = A list of sources for SWL receivers, amateur radios etc.
MANUALS = Sources for service manuals, circuit diagrams etc.
TUBES = List of sources for valves=bottles=vacuum tubes!
XTALS = A list of sources for radio crystals.
Most sources are USA and UK

Updated copies downloadable from BBSes at:
(301) 681-7782, (301) 942-2218, (301) 299-3292, (301) 563-1306
(301) 417-6952, (202) 619-1494, (202) 208-7679, (301) 933-8251

FTP site is at ftp.lehigh.edu. Login as anonymous, and use your
e-mail address as the password.
FTP: ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
WWW: http://www.nd.edu/~shideg/

DOWNLOAD as MEGALIST.ZIP or individually as:
megalist.txt
manuals.txt
dealers.txt
tubes.txt
xtals.txt
========

* SLMR 2.1a * Please wait, downloading art work for AOL & charging you!

1485. Re: Can anyone ID these IF amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-02-29 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.84.0086DFDF@azstarnet.com>
Source record: 107013

In article <9602292038.AA08525@water.waterw.com> bob@waterw.COM (Bob Applegate) writes:
>From: bob@waterw.COM (Bob Applegate)
>Subject: Can anyone ID these IF amps?
>Date: 29 Feb 96 20:38:08 GMT

>Last night I picked up some IF amps at our club's White Elephant sale. They
>have RCA part numbers, but none of the retired RCA guys at the meeting had
>any idea what they were for. Markings are:

> LOG IF AMPLIFIER
> RHG ELECTRONICS LAB (15286)
> MODEL NO. ICL60G23EA
> RCA CORP P/N 5616449-5

Looks like a log amp made by RHG for RCA. The model number is probably RHG's
and the P/N is RCA's drawing number (possibly USN). Without a drawing, you
probably don't have a prayer in learning about the innards. Use'em for parts.

73, Wes -- N7WS

>The connectors are labeled: IF IN, -15V, RET, +15V, TP1, VID 1, VID 2, TP2.

>The price was right (25 cents each), so it was worth the gamble that they
>might be something interesting.

>Any info about specifications would be appreciated!

>Tnx
>Bob - WA2ZZX

>Bob Applegate, bob@waterw.com
>Water Wheel Systems
>35A East Main Street, Suite 10
>Marlton, NJ 08053
>609-596-0032

1486. Re: Linear Amp Modifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4h5jgm$dpm@nntp.Stanford.EDU>
Source record: 107014

In article <199602291444.GAA00993@UCSD.EDU> redbone@juno.COM (Douglas R Davis) writes:
>How much trouble would it be to modify an amp made for use between 3-30 MHz,
>for use on, say...75 meters? Is it possible or economically feasible?
>
>Thanks.

There may not be anything to modify although, you might want a low pass
or band pass at the output to keep down the harmonics.

Steve Muther WF6R
stevem@w6yx.stanford.edu

1487. Public domain Iambic Keyer source code

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: lewissys@ix.netcom.com
Message-ID: <4h5m9o$44h@dfw-ixnews1.ix.netcom.com>
Source record: 107015
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I wrote source code for a simple keyer for the PIC16C54 (18 pin DIP).
It has paddle selected speed and a synthesized 833 Hz sine wave output
for code practice or sidetone. E-mail me if you want a copy, as I have
no IP. de KJ5WA

1488. Re: Direct conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: clifto@indep1.chi.il.us
Message-ID: <DnKMs4.25J@indep1.chi.il.us>
Source record: 107016

I flat out BLEW it. I don't know where my mind was, but I did not want
to talk about direct conversion; considering that I can't remember the
correct term for what I am thinking about even after a few hours have
passed, I assume my brain needs Beano.

What I was trying to convey is that I want to create a receiver that
will amplify and filter the heck out of the RF, then run that straight
into a detector.

The rest still applies.

In article <DnJxHL.H1@indep1.chi.il.us> clifto@indep1.chi.il.us (Clifton T. Sharp) writes:
:I've decided to try to design a MW broadcast-band receiver (at least in
:part to bolster my meager analog design skills), and it occurred to me
:that I might like to try using direct conversion. What are the issues,
:tradeoffs, etc. that might affect that decision?
:
:My main objectives are high sensitivity, low noise and distortion,
:and selectivity as good as I can reasonably get it (in that order).
:I was thinking that direct conversion can help me avoid a lot of
:problems with LO nonlinearity and distortion products, etc. I also
:remember that many of the reasons it didn't fall into general consumer
:use were the expense of multi-gang tuning capacitors (which I bypass
:with nice, cheap varactors), the design tradeoffs in trying to get wide
:bandwidth out of tube circuits (of course I'll be using transistors
:and/or ICs) and some vaguely-remembered problems with detector design
:(I like the idea of synchronous detection; comments on that welcome
:as well).
:
:If I remember right, there's also the problem with superhet that the
:optimal amount of LO injection is very different for weak signals than
:for strong ones, and that trying to vary it causes problems with
:dynamic range considerations. I'd like this thing to perform as well
:with the 50KW locals as with the 5KW station in Moose Jaw.

--
Cliff Sharp There are days when no matter which
WA9PDM way you spit, it's upwind.
clifto@indep1.chi.il.us --The First Law of Reality

1489. Re: Linear Amp Modifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4h6tn6$952@news.fwi.com>
Source record: 107017

In <199602291444.GAA00993@UCSD.EDU>, redbone@juno.COM (Douglas R Davis) writes:
>How much trouble would it be to modify an amp made for use between 3-30 MHz,
>for use on, say...75 meters? Is it possible or economically feasible?
>
>Thanks.

1. 75 meters is between 3-30 MHZ
2. Look in YOUR various Radio Amateur books/ study manuals etc. for how
basic tuned circuits and components work together.
3. Decide if you have the skill, time, and ability to make it worth your while.

WD9AHF

1490. Re: What does GaAs-FET cost?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.85.000DACD3@azstarnet.com>
Source record: 107018

In article <4h58ff$n77@helios.herts.ac.uk> Michael Petzold <M.Petzold@herts.ac.uk> writes:
>From: Michael Petzold <M.Petzold@herts.ac.uk>
>Subject: What does GaAs-FET cost?
>Date: 29 Feb 1996 22:14:07 GMT

>I've got a circuit diagram of a LNC, and its input stage is fitted with a
>Mitsubishi MGF1502, a single-gate GaAs-FET. I couldn't find any GaAs
>components in my catalogs (RS, Farnell), so my question is: What
>(approx.) does such a device (or a similar one) cost? The text said it
>was a cost-effective device, but I got no clue what the usual prices are.
>(The same circuit uses a CF300 dual-gate GaAs tetrode. How much does this
>cost?)

While it's not an exceptional device, it's hard to beat an HP ATF-21186 for price. $2.00 each. The only downside I've found is minimum order size. $50 from Pennstock. I don't know of a dual-gate of hand. Somebody will.

Oops, I just saw you're in the UK so maybe this doesn't help.

Cheers, Wes -- N7WS

>Thanks!

>Michael

1491. Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: gherbst@msn.com
Message-ID: <NEWTNews.825700724.8612.Postmaster@GGHERB.MONSANTO.COM>
Source record: 107019
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

Gerhardt G. Herbst II, is the patent holder for "Cold Spot Module".
This product is for sale to an individual or manufacturer.

The "Cold Spot Module" is used to effectively reduce the operating
temperature of integrated circuits such as computer CPUs to maintain
reliability under extreme operating conditions. This module is protected
under a U.S. Utility Patent issued in October of 1995. A Utility patent
provides the strongest protection under U.S. law.

An independent North American Market Study was done on the product and the
potential market has been identified.

The product has not yet been introduced to the general public but is referenced
in the U.S. Patent catalog which is posted periodically. For an on-line reference
refer to:

http://www.uspto.gov

Search on Patent Number: 5457342

The title abstract is: Integrated circuit cooling apparatus

Note: A search on just the patent number will bring up the details.

Exclusive rights can be purchased reasonably with negotiable license term.

For further information, contact Gerhardt G. Herbst II.

Gerhardt G. Herbst II
133 Wynstay
Valley Park, MO 63088
Phone: (314) 861-0426
E-mail: gherbst@msn.com

1492. RHG IF Amp - Can someone provide specs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: bob@waterw.com
Message-ID: <4h75p8$3ak@sea.waterw.com>
Source record: 107020

At a local white elephant sale, I picked up four IF amps for a dollar... not much of a waste if I can't get the specs for them, but I was hoping someone could provide some clues. The parts are marked as follows:

LOG IF AMPLIFIER
RHG ELECTRONICS LAB (115286)
MODEL NO. ICL60G23EA
RCA CORP P/N 5616449-5

The input/output pins are: IF IN, -15V, RET, +15V, TP1, VID 1, VID 2, TP2. There are two pots labeled SLOPE and OFFSET.

Any info/help would be appreciated!

73
Bob - WA2ZZX
bob@waterw.com

1493. Re: Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: Montbach/Bartlett <caspar@tiac.net>
Message-ID: <313786FB.6D07@tiac.net>
Source record: 107021
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

acssb radios are being marketed in the us by SEA electronics. They are trunked, as the previous reply stated. The LTR format seems to be the standard. There are several companies setting up regional systems that are linked via spread spectrum. My shop is in the process of building up a acssb repeater. Neat stuff, indeed. 73, Will

1494. Re: Can anyone ID these IF amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-0103961737020001@tom-dunn.caltech.edu>
Source record: 107022

> Last night I picked up some IF amps at our club's White Elephant sale. They
> have RCA part numbers, but none of the retired RCA guys at the meeting had
> any idea what they were for. Markings are:
>
> LOG IF AMPLIFIER
> RHG ELECTRONICS LAB (15286)
> MODEL NO. ICL60G23EA
> RCA CORP P/N 5616449-5
>
> The connectors are labeled: IF IN, -15V, RET, +15V, TP1, VID 1, VID 2, TP2.
>
> The price was right (25 cents each), so it was worth the gamble that they
> might be something interesting.
>
> Any info about specifications would be appreciated!
>
> Tnx
> Bob - WA2ZZX
>
>Well: I checked my RHG catalog and they don't list the ICL60G23EA.
Thier part numbers usually show the first two digits being IF freq.(ie
60=60MHz) and second two digits(23) are the band width in MHz. The part
number start at ICLL. No ICL. Typical number would be ICLL6020. The
outputs are shown as IF in, IF out, and video1. They also have a Pot. for
offset adjustment. You can give RHG a call at 516 242-1100. This info is
from thier 1988 Catalog. They are a division of Adams Russell.
Hope this helps. 73 WB6IQD Tom dunnt@starbase1.caltech.edu

1495. Re: What does GaAs-FET cost?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <Z9PAgCAjfyNxEwUK@ifwtech.demon.co.uk>
Source record: 107023

In article <4h58ff$n77@helios.herts.ac.uk>, Michael Petzold wrote:
>I've got a circuit diagram of a LNC, and its input stage is fitted with a
>Mitsubishi MGF1502, a single-gate GaAs-FET. I couldn't find any GaAs
>components in my catalogs (RS, Farnell), so my question is: What
>(approx.) does such a device (or a similar one) cost? The text said it
>was a cost-effective device, but I got no clue what the usual prices are.

Try Aspen Electronics (0181 868 1311), or for small quantities try
Mainline Electronics (0116 277 7648).

The RSGB Microwave Components Service (G3WDG and G4KGC) might be able to
recommend a good equivalent, and probably supply it too.

>(The same circuit uses a CF300 dual-gate GaAs tetrode. How much does this
>cost?)

Same circuit as which? Surely not an LNC?

CF300s are "priceless" - becoming very hard to get!

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1496. Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: Brad Duffield <gsa00011@wvnvm.wvnet.edu>
Message-ID: <3137FCF3.2CB7@wvnvm.wvnet.edu>
Source record: 107024

I am bulding a set of Duplexers and want to silver plate the inside parts.. Anyone have any info on homebrew silver plating???

Brad Duffield WB8MZI

1497. Duplexers (varden)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: Brad Duffield <gsa00011@wvnvm.wvnet.edu>
Message-ID: <3137FC0D.5647@wvnvm.wvnet.edu>
Source record: 107025

I am building a set of 2 meter duplexers once commercially built by
a company called Varden (long out of business I think)using copper pipe.
Has anyone out there very see a set.. Need info on cable harness.

Brad Duffield WB8MZI

1498. Re: Linear Amp Modifications?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: raoul@coho.halcyon.com
Message-ID: <4h7qlg$3nb@news1.halcyon.com>
Source record: 107026

Wes Stewart (n7ws@azstarnet.com) wrote:
: In article <199602291444.GAA00993@UCSD.EDU> redbone@juno.COM (Douglas R Davis) writes:
: >From: redbone@juno.COM (Douglas R Davis)
: >Subject: Linear Amp Modifications?
: >Date: 29 Feb 96 14:14:55 GMT

: >How much trouble would it be to modify an amp made for use between 3-30 MHz,
: >for use on, say...75 meters? Is it possible or economically feasible?

: >Thanks.

: Nope, don't even consider it.

Are you joking or how do you figure?

there are/were wide band amps for 3-30 mHz although the CB boom just
about wiped them out. There are plans in various places for such
wideband amps.

75 meters is right in the low end of the range for the amp mentioned
(3.8-40 mHz)

Jeff

1499. Re: Whatever happened to AC-SSB ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: Mike Gathergood <Mike@g4kfk.demon.co.uk>
Message-ID: <825674138snz@g4kfk.demon.co.uk>
Source record: 107027
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4h1tmr$n7p@crchh327.rich.bnr.ca>
cnc23a@b4pph13e.bnr.ca "Ken Edwards" writes:

> A few years ago ther was alot of talk about Amplitude Compandored Single-Side
> Band communications.
>
> Haven't heard much about it lately.
>
> Any pointers on info ?

It's being marketed (very successfully) in the UK by Securicor as
'LINEAR MODULATION'

I toured the factory (near Bath, UK) last year and saw a large number
of radios being soak tested - these were badged with another vendor's
name, and were destined for Chicago.

73
Mike * QRV around 0800 and 1800 most weekdays on GB3HL *
G4KFK * (Hillingdon 433.075/434.675) and also 51.83 MHz *

1500. ? Duplexer 2m/70cm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-01 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <313727FB@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 107028

Hello folks,

our latest german ham newspaper, cq-DL 03/96, shows a duplexer for 2m/70cm.
It is refrenced to an article in "amateur radio".

The circuit seems to be very easy. Starting from the common connector it
uses quarter wave lines to the 70cm and 2m port each, where always a LC
notch filter cuts off the unwanted band (for example, from the common to the
2m port: quarter wave for 70cm and a LC for 70cm).

The 70cm notch is built of 67nH and 3pF, the 2m is built of 12pF and 200nH.
But thats all they showed. They did not show the winding datas for the
coils!

So, my question: Does anyone of you know the original article in "amateur
radio"? If so, can you provide me the coil winding datas?

And for specialists: Does anyone have experience with expanding it to 23cm?
I think it there is a possibility to add a 23cm circuit at the 70cm port,
isn't it?

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
dl4mea@amsat.org (Internet)
http://www.scn.de/~koellner (WWW)

1501. Re: Comb and interdigital filters for diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-02 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <3138735C.7309@arrl.org>
Source record: 106929

Zack Lau wrote:
>
> But, with such a narrow bandwidth, you need to space the rods
> really far apart, or shield them from each other. Of course,
> if the rods are shielded from each other you really have coaxial
> cavity resonators.

However, since you need as much Q as possible, you probably
want to use waveguide filters, dispensing with most of the
resonator rods. You might want to save one rod to feed the
input of the FET preamp. A rather challenging project, but
certainly possible--Zack.
> Zack KH6CP/1

1502. Collins - FAQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-02 00:00:00 UTC
From: crippel@exis.net
Message-ID: <4h88rh$nfl@grouper.Exis.Net>
Source record: 106930

Collins Collectors Association
Frequently Asked Questions (FAQ)
(Updated 3/96)

What is the Collins Collectors Association?

The Collins Collectors Association (CCA) is a not for profit organization dedicated to supporting Amateur Radio operators who share the opinion that Collins Radio made the very finest amateur communications equipment available. The Associations root's can be traced back to February of 1988 when Bill Wheeler, KDEW organized a 20 meter NET made up of 17 like minded Collins users. That small group grew to over 1,200 by 1993.

The purpose of the Association is to:

-Promote the care and use of Collins Amateur Radio Equipment
-Preserve the history and lore of Collins Radio Equipment
-Provide an information archive for Collins Radio Equipment

What are the benefits of belonging to the CCA?

For the active Collins user, belonging to the CCA can be extremely beneficial. Our membership has a vast collection of printed matter relating to Collins Radio including both technical and promotional material. A simple verbal request on any one of our 3 nets for technical information or a service part can result in half a dozen or more offers of help. We also have an informal group of extremely capable
"Senior Technical Staff Advisors" who work on a volunteer basis to help members solve what can be complicated technical problems encountered in Collins amateur products.

An added benefit, members receive our quarterly newsletter, The Signal.
They also receive a handsome, numbered membership certificate suitable

for framing. The CCA offers other Collins related items available exclusively to members such as extremely high quality QSL cards, CCA name badges, tee shirts and other memorabilia.

Because the CCA stands for and promotes gentlemanly and amateur-like operation, there is a real opportunity to share in quality fellowship with other CCA members. You may even meet a few of our members who were employed by Collins Radio and were instrumental in designing, producing, marketing and supporting Collins Radio equipment. Some of those members are Warren Bruene, W5OLY who designed, among other

things, the 30S-1 linear amplifier and 30K-1 transmitter and was Collins most tenured employee having started in 1939 and retired in 1984.
Member Dennis Day was one of the prime engineers on the 75S-3 and Gene Senti was the designer of the KWM-2, 30L-1 and KWS-1. We are proud to have these fine gentleman who have both directly and indirectly contributed much to amateur radio.

For those who may wish to add to a station or collection, the CCA attracts an elaborate and reliable network of equipment sellers as well as members who may be interested in selling or trading their own gear.

How does one become a member of the Collins Collectors Association?

Any person who has an interest in Collins Radio is welcome to join us.

Annual dues are $15 for those living in the US and Canada and $18 elsewhere. Again, this includes the membership certificate and our quarterly newsletter, The Signal.

Mail your remittence in US funds to:

The Collins Collectors Association
PO Box 840924
Pembroke Pines, FL 33084-0924
E-Mail: collins@exis.net

We support a 2-way exchange of information with our membership and encourage everyone to share their experiences. The Association offers

the best benefit and value to all when members share their Collins related experiences and situations.

How do I stay in touch with and participate in the CCA?

Besides our quarterly newsletter, the CCA currently has 3 affiliated nets which meet weekly. They are as follows:

The 20M net meets every Sunday on 14263 at 2000UTC. This is our formal,
directed net which usually has the greatest number of check-ins. It is dedicated to both technical subjects and the listing of equipment buy/sell opportunities.

The CCA also supports two weekly 75M nets. The first meets Tuesday nights on 3805 at 0100 UTC and the second meets Thursday nights on 3875 also at 0100 UTC. The 75M nets are designed to be informal with open discussions and the least amount of structure possible.

Chuck Rippel, WA4HHG
crippel@exis.net

Is there Life After 5 mHz?

-------------------x Reply Separator x-------------------------

1503. Re: Simulating old valves/tubes with FETs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-02 00:00:00 UTC
From: Neal McEwen <nmcewen@metronet.com>
Message-ID: <3138E653.49A3@metronet.com>
Source record: 106931
Cross-posted to: rec.radio.amateur.homebrew,uk.radio.amateur

```
>
> > I am looking for advice on FET based equivalent circuits to replace
> > old valves/tubes. In particular I have a National HRO-M which uses
> > several 6C6. What are the most important characteristics that need
> > to be reproduced?
>

At the Dallas AWA convention in October, there was a demonstration of FETs
and other transistors to replace tubes. Contact K5RB, Dick Bauer. He was
one of the presentors.
--
73 de K5RW - Neal McEwen - Richardson, TX (Dallas)
******** I collect old telgraph and wireless telegraph keys *********
HomeNet - nmcewen@metronet.com - OS/2 tcp/ip SLIP
HomePage - http://fohnix.metronet.com/~nmcewen/k5rw.html
```

1504. Re: CB conversion for HAM use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-02 00:00:00 UTC
From: griffin@jgfl1.allcon.com
Message-ID: <Dnn69I.1E5@jgfl1.allcon.com>
Source record: 106932
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

SARUMAN (midgard@nycmetro.com) wrote:
> Howdy folks, I was just going thru some of my stuff and found my old Walkie T's
> Both are 3 channel 3 watt units. one Lafayette one Radio Shack. Is it possable
> to get Crystals for Frequencies other thatn the 40 CB Channels for use with
> these units? Any other Mod's needed? Thanx for the help folks.
> The Crystals in these are socketed if that matters. I've been out of this for
> Years.

Such a conversion is pretty straight-forward;
just plug in new crystals and re-tune.

Jens, DB9LL
--
Missing coffee error - operator halted.

1505. Re: Help: Radio Design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-02 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4hak0s$ccl@news.fwi.com>
Source record: 106933

In <313473cd.0@eden.adam.com.au>, simcock@adam.com.au (ian simcock) writes:
>I posted this before, but I didn't get any respose, so I'm trying again.
>
>I'm hopeing that someone could point me to either
>1) An Internet site with circuit diagrams
>2) A book with appropriate circuits
>3) A person who could design an appropriate circuit
>4) A company that sells what I want.
>
>What I need is a small radio that fits the following specs -
>1) Any frequency (preferably an unlicenced piece of spectrum)
>2) Digital transmition of 500 bytes per second
>3) 200 meter range under bad indoor conditions
>4) Digital tuning
>5) Runs on 4-6 volts
>6) Low power consumption
>7) Rapid startup/shut down for the transmiter
>8) 10 channels
>
>
>If possible I'd like the following improvements
>1) 1000+ bytes per second
>2) 500+ meter range
>3) Run on 3-6 Volts
>4) 30+ channels
>5) Able to easily transmit analogue (voice) signals
>6) Full duplex opperation (Able to transmit and recieve at the same time)
>
>Thanks for reading this far.
>I'd appriciate any help anyone can give me,
> Ian Simcock.

Ian,
There is something 'weird' with your address. I sent you a 3 page written response and everytime I fire up my Ultimail, it refuses your address. I don't know what to tell you, except I'm able to send mail and replys to just about everybody else.
Jim WD9AHF

1506. March Edition of Ham Radio Online Intl Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-02 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4h8i7h$9c8@news.accessone.com>
Source record: 106934
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

The March edition of Ham Radio Online is available with the first articles.
Lots more will appear during the coming month. Stop on by and have a look!

http://www.accessone.com/~vbook/hronline.htm

73, Ed, KF7VY

---
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free, at
http://www.accessone.com/~vbook/hronline.htm

1507. Check out the action at http://www.txdirect.net/~mrt53/

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-03 00:00:00 UTC
From: Truth@Honest.gov
Message-ID: <4hb3f2$ehd@nimitz.fibr.net>
Source record: 106935

Check out the action at http://www.txdirect.net/~mrt53/Check out the action at
http://www.txdirect.net/~mrt53/Check out the action at
http://www.txdirect.net/~mrt53/Check out the action at
http://www.txdirect.net/~mrt53/Check out the action at
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http://www.txdirect.net/~mrt53/Check out the action at
http://www.txdirect.net/~mrt53/

1508. Re: Help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-03 00:00:00 UTC
From: AC6V <ac6v@ix.netcom.com>
Message-ID: <4hck4r$17r@cloner4.netcom.com>
Source record: 106936

Hello James.

From Antique Radio Classified Magazine, (P.O. Box 2, Carlisle, MA 01741),
there is an ad from Midco for crystal set parts, plans, kits and books.
Catalog is $1.00. Address is P.O. Box 2288, Hollywood, Fla, 33022.

I used to build the coils on oatmeal boxes. Also fun to experiment with
razor blade edges as a detector.

Good Luck with the projects.

Rod
PS. Really like the universe quote --- outstanding.

--
****
Hark! I Have Hurled My Words To The Far Reaches Of The Earth!
What King Of Old Could Do Thus ? --- AC6V
****
A Man May Know Of The World Without Leaving The Shelter Of His
Own Home!
Loa-Tsze
****

1509. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: unknown@unknown.com
Message-ID: <313a3a69.20709746@ixnews2.ix.netcom.com>
Source record: 106937

test

1510. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: paul@laughton.com
Message-ID: <4hdlvj$kvv@sun.sirius.com>
Source record: 106938
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

gherbst@msn.com wrote:

>Gerhardt G. Herbst II, is the patent holder for "Cold Spot Module".
>This product is for sale to an individual or manufacturer.

>The "Cold Spot Module" is used to effectively reduce the operating
>temperature of integrated circuits such as computer CPUs to maintain
>reliability under extreme operating conditions. This module is protected
>under a U.S. Utility Patent issued in October of 1995. A Utility patent
>provides the strongest protection under U.S. law.

>An independent North American Market Study was done on the product and the
>potential market has been identified.

>The product has not yet been introduced to the general public but is referenced
>in the U.S. Patent catalog which is posted periodically. For an on-line reference
>refer to:

>http://www.uspto.gov

>Search on Patent Number: 5457342

>The title abstract is: Integrated circuit cooling apparatus

>Note: A search on just the patent number will bring up the details.

>Exclusive rights can be purchased reasonably with negotiable license term.

>For further information, contact Gerhardt G. Herbst II.

> Gerhardt G. Herbst II
> 133 Wynstay
> Valley Park, MO 63088
> Phone: (314) 861-0426
> E-mail: gherbst@msn.com

I wonder how Mr Herbst slipped this one past the prior art
investigation? This technology has been around since the early 70's -
at least. For example, IBM and Amdahl main frames made extensive use
of it.

1511. TRF etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: clifto@indep1.chi.il.us
Message-ID: <Dnr815.wn@indep1.chi.il.us>
Source record: 106939

Okay, maybe the TRF wasn't such a good idea. However, the idea came about because I've heard so much over the years about LO noise, LO distortion, excessive or insufficient LO injection, mixer noise, mixer distortion (as far as I understand it, a mixer won't work without distortion, although I suppose the PC term is "nonlinearity" :-), etc.

Yes, it's easy to put together a receiver using something like an NE602, or any one of the nifty chips out there. A TDA1072 has a sensitivity of 15 uV for 26 dB S/N. But I won't LEARN anything by doing it, as I've done enough home projects and kits over the years to make it little more than an afternoon's busywork.

So, what about local oscillators and mixers, and the problems inherent in them, and how to solve them? (I'm reading up; but experiences are good to hear, and I don't have access to the very latest stuff, either.)

--
Cliff Sharp Whatever it is that hits the fan,
WA9PDM it will not be evenly distributed.
clifto@indep1.chi.il.us --The Third Law of Reality

1512. Re: Direct conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: clifto@indep1.chi.il.us
Message-ID: <Dnr89v.xz@indep1.chi.il.us>
Source record: 106940

In article <31393FDA.4732@monmouth.com> Robert Bissett <rbissett@monmouth.com> writes:
>It is called Tuned Radio Frequency (TRF) and the superheterodyne
> was developed to overcome all its' shortcomings.

True, but I thought those shortcomings were related to tube design
and to the cost of multigang variable capacitors; neither is a problem
with semiconductors (though coils are a consideration). Are there any
shortcomings I've missed?

Another question arises: is it practical to use gyrators in RF tuned
circuits? In all these years, I've found about four pages (literally)
of reading about gyrators, two in a magazine and two in a datasheet.
The applications shown were audio low-pass filtering.

--
Cliff Sharp Whatever it is that hits the fan,
WA9PDM it will not be evenly distributed.
clifto@indep1.chi.il.us --The Third Law of Reality

1513. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: gherbst@msn.com
Message-ID: <NEWTNews.825958328.26555.Postmaster@GGHERB.MONSANTO.COM>
Source record: 106941
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

Paul,

That's a very blatent claim you make. This patent went through with only one need for clarification from the PTO. Obviously know one else sought such a patent which is evidence by the PTO issuing me patent # 5457342.

Those companies you mention have devices that are similar with respect to cooling only if you care to follow the patents mentioned on my abstract. However, NONE have developed the device I have NOR do they have a patent on such a device. As such, I am the sole owner to pursue development of this product or companies under infringement.

Gaerhardt G. Herbst

1514. Re: looking for RE article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: paz@world.std.com
Message-ID: <DnrnK7.MCK@world.std.com>
Source record: 106942

I'm looking for a reprint of an article which appeared in a
Radio-Electronics issue somewhere between 1979 - 1983. It was a project to
build a frequency counter based on the Intersil 7207 & 7208 ic's, if
memory serves. It was basically the same as an Optoelectronics brand
frequency counter at the time, but schematic and foil circuit board
pattern for DIY.

Send email if you can get the article to me somehow...

tnx.
=paz=
philip zimmermann, WA2JTH
paz@world.std.com

1515. Serious 144 PowerAmps designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: Jean-marc BORD <c15201@email.mot.com>
Message-ID: <1996Mar4.104831.2514@schbbs.mot.com>
Source record: 106943

Hi there,

I'm looking for serious tested designs using either one QBL5/3500
tetrode or a 3CX3000A7 triode for the 144MHz band.
For Moonbounce operation, I'm already using a 3CX1500A7 but need more
'fruitjuce' !.

Regards
Jean-marc

P.S.
Please reply direct to
C15201@email.mot.com

1516. Serious 144 PowerAmps designs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: Jean-marc BORD <c15201@email.mot.com>
Message-ID: <1996Mar4.104807.2453@schbbs.mot.com>
Source record: 106944

Hi there,

I'm looking for serious tested designs using either one QBL5/3500
tetrode or a 3CX3000A7 triode for the 144MHz band.
For Moonbounce operation, I'm already using a 3CX1500A7 but need more
'fruitjuce' !.

Regards
Jean-marc

P.S.
Please reply direct to
C15201@email.mot.com

1517. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-04 00:00:00 UTC
From: jimf@zoinks.corp.sgi.com
Message-ID: <4hfqtn$6kb@murrow.corp.sgi.com>
Source record: 106945
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

In article <NEWTNews.825958328.26555.Postmaster@GGHERB.MONSANTO.COM>,
gherbst@msn.com writes:
|> Paul,
|>
|> That's a very blatent claim you make. This patent went through with only
|> one need for clarification from the PTO. Obviously know one else sought
|> such a patent which is evidence by the PTO issuing me patent # 5457342.
|>
|> Those companies you mention have devices that are similar with respect to
|> cooling only if you care to follow the patents mentioned on my abstract.
|> However, NONE have developed the device I have NOR do they have a patent
|> on such a device. As such, I am the sole owner to pursue development of
|> this product or companies under infringement.
|>
|> Gaerhardt G. Herbst
|>

What I am wondering is what this has anything to do with amateur radio antennas, homebrew, space, etc.? The point is that this, and the preceding posts were made to the amateur radio news groups.

Cooling of microprocessors, and your grandstanding of being awarded a patent are of no interest to me or in any way pertinent to my interest in amateur radio. And that is why the newsgroup(s) have those titles.

If you are looking for invetors, get a clue and do it somewhere else.

If you are simply so proud of yourself for being awarded a patent for what appears to be anothers work, then HIP HIP HOORAY for you! Now grow up and go away.

Jim

1518. EIMAC 5CX3000A tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: flanders@znet.groupz.net
Message-ID: <4hgd7v$m4k@news1.sunbelt.net>
Source record: 106946

I recently picked up a piece of surplus gear with a big EIMAC 5CX3000A tube. I have written to EIMAC to get operating voltages for this monster, but they may not respond in time for shopping for a plate transformer at this weekend's hamfest.

Can somebody please post or e-mail the operating voltages / limiting specs for it?

Thanks

Jerry Flanders W4UKU South Carolina flanders@groupz.net

1519. Re: Direct conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <313BEE1A.75D5@monmouth.com>
Source record: 106947

Clifton T. Sharp wrote:
>
> In article <31393FDA.4732@monmouth.com> Robert Bissett <rbissett@monmouth.com> writes:
> >It is called Tuned Radio Frequency (TRF) and the superheterodyne
> > was developed to overcome all its' shortcomings.
>
> True, but I thought those shortcomings were related to tube design
> and to the cost of multigang variable capacitors; neither is a problem
> with semiconductors (though coils are a consideration). Are there any
> shortcomings I've missed?
>
> Another question arises: is it practical to use gyrators in RF tuned
> circuits? In all these years, I've found about four pages (literally)
> of reading about gyrators, two in a magazine and two in a datasheet.
> The applications shown were audio low-pass filtering.
>
> --
> Cliff Sharp Whatever it is that hits the fan,
> WA9PDM it will not be evenly distributed.
> clifto@indep1.chi.il.us --The Third Law of Reality

Probably the biggest fault of the TRF is the decreasing selectivity
as the operating frequency increases. For example, in the am broadcast
band at 1000 kc, a 10 kc bandwidth signal is 1% of the operating
frequency, and the next station up the band at 1010 kc is just about
1% away. Not too difficult to construct a trf receiver to reduce the
interference from the adjacent station.

Move up to 10,000 kc and the percentage drops to 0.1% and so on
up in frequency. Separating signals becomes more difficult. To overcome
this more stages are added in the trf to narrow the band width. As you
noted the multi-section variable capacitor can be eliminated
with vari-caps but the frequency tracking problem is still there.

Getting several stages to change frequency together is a challenge
as anyone who has built them can tell you. Above 15,000 kc or so
the inevitable mis-tracking nullifies the added stages selectivity.
I have built them and can testify to that! And by the way, inductors
have instability problems too (mainly thermally induced).

The superheterodyne does its' selectivity and amplification chores
at a fixed frequency where all the best techniques can be applied.

Bob ND2L
****
Bob Bissett rbissett@monmouth.com

****

1520. Re: Source of MMICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4hgps7$4me@newsbf02.news.aol.com>
Source record: 106948

In article <n7ws.86.000B604F@azstarnet.com>, n7ws@azstarnet.com (Wes Stewart) writes:

>
>Charlie,
>
>I don't know what small quanties means to you, however, I have bought from
>Sertek, now Sertek-Pennstock, with a minimum order of $50.
>
>If this is useful and you can't find it otherwise, I have an 800
>number at work for them, although you should be able to get it from
>800 information. Of course, in Phoenix, Sertek is a local call.
>
>HTH, 73, Wes -- N7WS
>
>

I hope Charlie has better luck than me. I was looking for higher power MMIC's and had a heck of a time getting samples and finding sources. I went round and round and wound up back with HP and Mini-Circuits.

If you find an HP or Mini-circuit equiliv of what you need, and I've got it Charlie, I'll send you a few.

73 Tom

1521. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: paul@laughton.com
Message-ID: <4hgr8o$p96@sun.sirius.com>
Source record: 106949
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

gherbst@msn.com wrote:

>Paul,

>That's a very blatent claim you make. This patent went through with only
>one need for clarification from the PTO. Obviously know one else sought
>such a patent which is evidence by the PTO issuing me patent # 5457342.

>Those companies you mention have devices that are similar with respect to
>cooling only if you care to follow the patents mentioned on my abstract.
>However, NONE have developed the device I have NOR do they have a patent
>on such a device. As such, I am the sole owner to pursue development of
>this product or companies under infringement.

>Gaerhardt G. Herbst

Having too much time on my hands, I went and looked at your patent.
The first part of the patent describes the exact CCD cooling method
used for years by Santa Barbara Instruments (and others) for cooling
CCDs. Your novel claim seems to be an IC cooler that is retrofitted to
an existing, uncooled IC.

<Yawn>

1522. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4hh27g$c10@tempo.univ-lyon1.fr>
Source record: 106950

Gary,

: Vincent, silver plating allows you to lower the *insertion* loss of
: the system while adding another cavity will *increase* the insertion
: loss of the system. They aren't alternative paths to the same solution.

I agree.
Is it really that significant ?

What is the improvement in the insertion loss between a normal copper
cavity and a sliver-plated one ?

VIncent

--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1523. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar5.151226.9850@ke4zv.atl.ga.us>
Source record: 106951

In article <4hh27g$c10@tempo.univ-lyon1.fr> elendir@enst.fr (Elendir) writes:
>Gary,
>
>: Vincent, silver plating allows you to lower the *insertion* loss of
>: the system while adding another cavity will *increase* the insertion
>: loss of the system. They aren't alternative paths to the same solution.
>
>I agree.
>Is it really that significant ?

Perhaps. There are a number of other factors that come into play, including system topology, so it's difficult to give a hard and fast answer.

>What is the improvement in the insertion loss between a normal copper
>cavity and a sliver-plated one ?

To the *system*, it could range from 0.5 db up to 2.0 db (or even more). In most cases, 0.5 db isn't significant, but 2.0 db almost always is. As I said, there are a lot of other factors at play here. If the cavity is rather small, and has high circulating currents, silver plating makes a substantial difference. If the cavity is large, the difference is less significant because the sheet resistance is lower, or looked at another way, the current density per square centimeter is lower in the larger cavity, so the I^2R loss is less.

But in any case, if, because the unloaded Q of the plain copper cavity is lower than a silver plated one, you have to use an additional cavity in the system to get the required isolation, then the insertion loss of that extra cavity would count toward additional system loss. This may be more significant than just the I^2R loss difference between a plain cavity and one that is silver plated. This is particularly important if the additional cavity is a pass cavity. If it is a notch cavity, the difference will be much less significant.

If I were building a notch duplexer, I wouldn't worry much about silver plating. I'd just use 6 notch cans instead of 4. But if I were building a duplexer using pass cavities, I'd give them a good rubdown with Cool Amp so that I could use only 4 instead of 6, and I'd make those 4 bigger than notch cavities too. That should cut system insertion loss by at least 33%, and I'd call that significant.

Gary
--

Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1524. Vacuum Tubes, Canadian Suppliers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: toyboat@freenet.edmonton.ab.ca
Message-ID: <4hi21h$c36@news.sas.ab.ca>
Source record: 106952

I am interested in experimenting with a number of antique regenerative receiver circuits and also, in future, simple transmitters. Although I have located several excellent sources of RF parts and several sources of vacuum tubes, none are inside Canada. Does anyone out there know of any vacuum tube suppliers here, preferably close to Edmonton?

If so, or if you have insights to offer, please post to this article or e-mail me your reply.

Thanks,
Shane

--

1525. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.89.0028658F@azstarnet.com>
Source record: 106953
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

In article <4hdlvj$kvv@sun.sirius.com> paul@laughton.com (Paul Laughton) writes:
>From: paul@laughton.com (Paul Laughton)
>Subject: Re: Announsing: Technology Patent Available For Purchase
>Date: Mon, 04 Mar 1996 02:54:14 GMT

>gherbst@msn.com wrote:

[blah,blah... deleted]

>I wonder how Mr Herbst slipped this one past the prior art
>investigation? This technology has been around since the early 70's -
>at least. For example, IBM and Amdahl main frames made extensive use
>of it.

Simple. He reinvented it first!

1526. Re: Can anyone ID these IF amps?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-05 00:00:00 UTC
From: ccurtis@avionics.ITt.COM
Message-ID: <313DD4E3@avint4.avionics.itt.com>
Source record: 106954

Bob,

These IF log amps (detectors) cost around $700 back when there were new. The part you mention is a "special" made for RCA by RHG. One video output is a DC level proportional to the log of the amplitude of the IF input. The output approximately ranges from about 100 mV to 2 volts with input amplitudes of -60 dbm to +10 dbm. The output is a linear function of the input power in dBm. The unit responds to signals 60 Mhz +/- 23 Mhz in frequency. The other video output is a 'limited video' output for use in detecting the simple absence or presence of on input (think of it as a logic level output).

You could make a nice, sensitive power meter for the 6 meter band with one of these units. Just apply DC power to the unit and connect a DC voltmeter to the video output. Apply a low level, 60 Mhz +/- 23 Mhz signal to the IF input. The voltmeter will indicate the power level of the applied IF. You could calibrate it against a known
power meter for use as a stable, wide dynamic range, accurate power measuring
device.

Chuck Curtis, N2UCN
chuck@ham.hsix.com
n2ucn@wa2soc.ampr.org
n2ucn@wa2soc.#nnj.nj.usa.noam

Date: 29 Feb 96 20:38:08 GMT
From: bob@waterw.COM (Bob Applegate)
Subject: Can anyone ID these IF amps?

Last night I picked up some IF amps at our club's White Elephant sale. They have RCA part numbers, but none of the retired RCA guys at the meeting had any idea what they were for. Markings are:

LOG IF AMPLIFIER
RHG ELECTRONICS LAB (15286)
MODEL NO. ICL60G23EA
RCA CORP P/N 5616449-5

The connectors are labeled: IF IN, -15V, RET, +15V, TP1, VID 1, VID 2, TP2.

The price was right (25 cents each), so it was worth the gamble that they might be something interesting.

Any info about specifications would be appreciated!

Tnx
Bob - WA2ZZX

Bob Applegate, bob@waterw.com
Water Wheel Systems
35A East Main Street, Suite 10
Marlton, NJ 08053
609-596-0032

1527. looking for kit companies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: n9ifg <jserocki@wwa.com>
Message-ID: <4hj5vp$ql3@kirin.wwa.com>
Source record: 106955

As a scout merit badge counselor, I am in need of kit addresses for the kids.

Seems many of them are gone. Rainbow too expensive, and ramsey somewhat limited. Looking for the older stuff, such as receivers, strobelites, etc.

any ideas?

thanks

jserocki@wwa.com

1528. Re: looking for kit companies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4hjc3i$38p@newsbf02.news.aol.com>
Source record: 106956

Send an E-mail to info@arrl.org

with:

SEND KITS.TXT
QUIT

as the message text.

de Bill K2EK

1529. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: Mark Pettigrew <m.w.pettigrew@shu.ac.uk>
Message-ID: <313DE767.6A97@shu.ac.uk>
Source record: 106957

> Brad Duffield wrote:
>
> > I am bulding a set of Duplexers and want to silver plate the inside
> > parts.. Anyone have any info on homebrew silver plating???
> >
> > Brad Duffield WB8MZI
>

How thick a layer of silver do you want? I have a 'silver polish' which claims to silver plate not only silver (hence avoiding loss of silver when you polish) but also 'silver plates' metals like copper. I've tried it on coins, keys, etc, and it certainly coats the copper in a 'silver' layer, and I have no reason not to believe that the layer is actually silver. However, it's obviously not very thick.

Mark Pettigrew
G0WLR

1530. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4hjtci$h1f@tempo.univ-lyon1.fr>
Source record: 106958

Mark Pettigrew (m.w.pettigrew@shu.ac.uk) wrote:

: layer, and I have no reason not to believe that the layer is actually
: silver. However, it's obviously not very thick.

This leads to another (important) point :

At 145 MHz, how thick must the plating be ? More than 10 microns, I guess.
The skin effect is not that important.
Next, what about silver oxydation ?

Vincent

--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1531. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.253.000BC813@TRL.OZ.AU>
Source record: 106959

In article <4hh27g$c10@tempo.univ-lyon1.fr> elendir@enst.fr (Elendir) writes:
>From: elendir@enst.fr (Elendir)
>Subject: Re: Silver Plating ?
>Date: 5 Mar 1996 09:41:04 GMT
>Gary,>: Vincent, silver plating allows you to lower the *insertion* loss of
>: the system while adding another cavity will *increase* the insertion
>: loss of the system. They aren't alternative paths to the same solution.
>I agree.>Is it really that significant ?>What is the improvement in the
insertion loss between a normal copper>cavity and a sliver-plated one ?
>VIncent-->Fox 5 RCS - Round the world and beyond through amateur radio.
>VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

Where copper has a resistivity of 1.0, silver is 0.9. Therefore,Unless it is
done properly (and regular plater's- used only to doing ornamental plating
may well not know); silver plating copper coils and cavities may actually
increase their loss.

Reference: Fowler; Specifying Elecrtoplated Finishes For Radio Frequency
Applications; Elec. Eng. Trans. I.E Aust. Vol EE8, No. 2 Sept. 1972. and

Fowler; Radio Frequency Performance of Electroplated Finishes, Proc IREE Vol
31 No 5 May 1970 pp 148-64. and

Von Bayer; The Effect of Silver Plating on Attenuation at Microwave
Frequencies; Microwave Journal Vol 3, No 4 Apr 1960 pp 47-50.

73, Drew Diamond, VK3XU. Telstra Research Laboratories.

1532. Re: need ferrite beads to pass 6-khz, suppress 25-khz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-0603960618020001@squaw-d120.sierra.net>
Source record: 106960
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

In article <1996Mar5.212240.12842@nosc.mil>, horowitz@nosc.mil (Alan M. Horowitz) wrote:
> I need a ferrite bead that will keep a 25-khz spurious square-wave (it's
> a legitimate clock signal in another board) from entering my receiver's
> a-to-d. The wanted analog signal is a voice channel centered around 6 khz.
>
> Which is the proper formulation of ferrite? Who are the vendors who will
> sell small quantities?

Ferrite beads act only as a lossy inductor, and therefore their single pole "filter" response curve probably won't give you the attenuation you need for a spurious signal only 2 octaves away, depending on relative amplitudes.

Typically, one would use an active or passive elliptical filter, positioning the zero's that are present in the stopband right on the frequency causing troubles.

One might get away with better lead dress and shielded wire for the different modules...

Good luck, Bob T.

1533. VHF Communications Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: Michael J Wooding <vhf-comm@g6iqm.demon.co.uk>
Message-ID: <177vOXAP2dPxEwQt@g6iqm.demon.co.uk>
Source record: 106961

Hi Folks,

For subscribers and interested parties:

Issue 1/1996 of VHF Communications is now at the printers and should be
shipped by March 30th.

For more information on the contents of this issue and on subscribing to
the magazine take a look at our Web site:

http://www.eolas.co.uk/ag/vhfcomm.htm

Thanks and 73 ... Mike

Michael J Wooding vhf-comm@g6iqm.demon.co.uk - CompuServe: 100441,377
Web Pages: http://www.eolas.co.uk/ag/vhfcomm.htm (hambits.htm & hamclip.htm)
Tel: (0)1788 890365 Fax: (0)1788 891883
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK
VHF Communications Magazine - Especially Covering VHF, UHF and Microwaves

1534. Re: need ferrite beads to pass 6-khz, suppress 25-khz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <4hk5hf$854@news2.deltanet.com>
Source record: 106962
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Alan M. Horowitz (horowitz@nosc.mil) penned:
: I shouldn't throw away my QST's after reading them, I guess!

: I need a ferrite bead that will keep a 25-khz spurious square-wave (it's
: a legitimate clock signal in another board) from entering my receiver's
: a-to-d. The wanted analog signal is a voice channel centered around 6 khz.

: Which is the proper formulation of ferrite? Who are the vendors who will
: sell small quantities?

Those freqs seem a bit low for ferrites. For audio freqs I would guess
that some big electrolytics across the power busses would help. And the
grounding of the different circuits has to be checked to see if there
might be ground loops. If you can detect a sq wave with a scope across
the opposite ends of a ground then there is current in the ground that
should be rerouted to another point.

--
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@delta1
Rancho Santiago Community College District	.deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://rsc.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"You can flame your brains out -- it won't take long."
#===T=u=z=l=a==C=o=m=p=a=n=y=.=.===t=h=r=e=e='=s==L=e==C=r=o=w=d=!==#

1535. Need Radio Clock Info.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: Parker Kent <100654.646@CompuServe.COM>
Message-ID: <4hl1tj$90r$1@mhade.production.compuserve.com>
Source record: 106963
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave

I need any information I can get in
reguards to the radio signals sent from Germany
across Europe giving time information for
Radio Clocks.

Thanks,

Parker Kent

1536. Re: looking for kit companies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.105.09B47120@mindspring.com>
Source record: 106964

In article <4hj5vp$ql3@kirin.wwa.com> n9ifg <jserocki@wwa.com> writes:

>As a scout merit badge counselor, I am in need of kit addresses for the
>kids.

>Seems many of them are gone. Rainbow too expensive, and ramsey somewhat
>limited. Looking for the older stuff, such as receivers, strobelites, etc.

>any ideas?

>thanks

>jserocki@wwa.com

I just got a ten-tec kit catalog in the mail ...
One of their kits is a regenerative SW receiver for $29.95 ---
4 bands, optional case for $19.95, but the base kit comes with
a front panel/dashboard for tuning and controls ...

T-Kits
A division of Ten-Tec
1185 Dolly Parton Parkway
Sevierville, Tenn 37862
Inf0- 1-423-453-7172

Regards,
Ed

1537. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <4hl3r2$srl@usenet.srv.cis.pitt.edu>
Source record: 106965

In Article '<313ce458.0@news.provo.novell.com>', through puissant locution,
'vcampbell@novell.com' soliloquized:
>hamlab@enterprise.net (Steve Drury) wrote:
>>Can anyone tell me of a good P.D. or inexpensive shareware PCB cad
>>software which will do block fill or ground plane generation? Output
>>to laser printer is also required!
>
>There is a free X11 pcb program for ftp from
>pluto.medizin.uni-ulm.de/pub/pcb
>I had no trouble getting it to work on Linux.

Greetings. Correction, it's now at:

ftp://ftp.uni-ulm.de/pub/pcb/current

and all you need is the pcb-xxxx.tar.gz file... it has all the
samples, packages, and READMEs in it (I mention this because
they are also provided in the above directory and want to save
people extra downloads). I too have had no problems running it.
It's not as "spiffy" as some of the limited-demos that some
firms put out for DOS/Windoze but it does the deed.

I'm fiddling with a free PCB list (like my free spcie list, see URL:
http://www.paranoia.com/~filipg/HTML/FAQ/BODY/F_Free_Spice.html) but
I only have a few listed now... Please let me know if you know of
any other PCB packages that are demo or Free.

Take care.

--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/| Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

1538. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <313E399F.6B37@lanl.gov>
Source record: 106966

Supposedly the biggest advantage to silver plating is AFTER it ages and begins to oxidize.... while corroded copper will normally require periodic disassembly and cleaning, silver oxidation is still highly conductive. (One reference: ARRL "FM and Repeaters: A 2 Meter Duplexer", page 110. Also the old ARRL VHF manual mentions the relative merits of silver plating.

--

|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
HTTP://nis-www.lanl.gov/~jdport/

1539. Looking for Information about Dentron Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: a032623t@bcfreenet.seflin.lib.fl.us
Message-ID: <4hkrti$7h8@news.seflin.lib.fl.us>
Source record: 106967

--

Kris Cordova
a032623t@bcfreenet.seflin.lib.fl.us

1540. Looking for Information about Dentron Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-06 00:00:00 UTC
From: a032623t@bcfreenet.seflin.lib.fl.us
Message-ID: <4hks5s$7h8@news.seflin.lib.fl.us>
Source record: 106968

--

Kris Cordova
a032623t@bcfreenet.seflin.lib.fl.us

1541. Vacuum Tubes, Canadian Su

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8868.546@acenet.com>
Source record: 106829

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

TO> I have located several excellent sources of RF parts and several
TO> sources of vacuum tubes, none are inside Canada. Does anyone out
TO> there know of any vacuum tube suppliers here, preferably close to
TO> Edmonton?

Let me know about the sources for RF parts please so I can add them to
my listings!

List of suppliers and sources for finding vacuum tubes: Updated 28-Feb-96
by Brian Carling, AF4K (brian.carling@acenet.com)

Updated copies downloadable from BBSes at:
(301) 681-7782, (301) 942-2218, (301) 299-3292, (301) 563-1306
(301) 417-6952, (202) 619-1494, (202) 208-7679, (301) 933-8251

FTP site is at ftp.Lehigh.EDU. Login as anonymous, and use your
e-mail address as the password.
FTP: ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
WWW: http://www.nd.edu/~shideg/

DOWNLOAD as MEGALIST.ZIP or individually as:
megalist.txt
manuals.txt
dealers.txt
tubes.txt
xtals.txt
==========

Adkins:Charles P. N8QXP (313) 382-0272
1821 La Blanc.
Lincoln Park,MI 48146 Tubes

Antique Radio Classified 508-371-0512 Write for free sample.
P.O. Box 802 Magazine. You'll find almost ANYTHING here
Carlisle, MA 01741 for older radios, obscure parts, tubes etc.

Antique Triode
P.O. Box A2
Farnham, N.Y 14061
(716) 549-5379

David Ask No phone number given
RR 2
Houston, MN 55943 Tubes 4, 5 and 6 pin tubes. Send $1 for list

Bauman:Jeff, WB5KZW. 313-435-9922: 313-661-0202 Jeff had 1500 Tubes
6647 Stonebridge East, for sale as of December,1993
West Bloomfield, MI 48322

C & N Electronics 800-421-9397: 612-429-9397
6104 Egg Lake Road FAX 612-429-0292
Hugo, MN 55038 Buy & sell tubes

Don Diers No phone, mail only
4276 North 50th. Street
Milwaukee, WI 53216-1313 All parts, tubes, misc

DNF
6690 7 Mile Rd.
South Lyon,MI 48178 (Over 1000 tube types. Send SASE for list.)

Fala Electronics (No number listed) send S.A.S.E.
P.O. Box 1376-1
Milwaukee, WI 53201 Vacuum tubes

No name (SHY?!) No phone number given
5150 Merritt Road
Black Hawk, SD 57718 Tubes. S.A.S.E. for list

S&J Electronics 608-222-4900
(John Burdick)
2219 Industrial Dr.
Madison, WI 53713

Songbird Music in Toronto. Phone number needed
http://www.the-wire.com/songbird/
Address needed Tube supplier

Steinmetz Electronics (219) 931-9316
7519 Maplewood Avenue
Hammond, IN 46324 Tubes

Songbird Music has two locations:
songbird@the-wire.com 388 Gladstone Ave.
801 Queen St. W. Ottawa, Ontario, Canada
Toronto, Ontario, Canada (613) 594-4838
(416) 504-7664
Audio tubes and power amp tubes.

==========
This list was updated by AF4K, Brian Carling Feb 28, 1996
Please send additional sources for inclusion in this list.
If you go to a hamfest and see someone selling tubes, get a card
please, and send me their name, address and phone number.

brian.carling@acenet.com

As you see - there are a TON of listings for NY, WI, MI etc, but not many suppliers inside Canada. You should download TUBES.TXT for the complete listings. Some give me no address and might be in Canada but you could only tell from the AREA CODES. 73 - Bry

* SLMR 2.1a * Sixty-three percent of all statistics are worthless.

1542. 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.8869.546@acenet.com>
Source record: 106830

From: brian.carling@acenet.com.us
"mail sometimes bounces here, please resend if needed!"

Bonjour!

EL>Hello once more,
EL>meanwhile I was working on the 23 cm repeater project, I received my
EL>6 meter authorization (Yes, yes, 50 MHz is alloted to BROADCASTING in
EL>Region 1, and we're not as lucky as English people, we get only
EL>50.2 to 51.2 with 10 to 100 W e.r.p) - so I'm planning to design a
EL>transverter 50 to H.F. (Whatever).
EL>Therefore : According to you, what is the best FET (or best small-
EL>signal device) that can be used at that frequency ?
EL>J310 ? 2N4416 ? BF998 ?

You can BUY a transverter KIT or ready-made from TEN-TEC in Tennessee
USA for USD $100 or 150 for ready made. It puts out 10 watts on 50 MHz
and the i.f. is 14 MHz

Bon chance!

EL>I know this is B.F, but...

B.F. ? Qu'est que c'est?

EL>THX, Vincent

TKS - Bry, Radio AF4K in Gaithersburg, MD USA

* SLMR 2.1a * Fairchild and Honeywell merged; "Farewell honeychild!"

1543. Re: Need books on repairing/building tube radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.826246747.14054.jwicklun@mycroftxxx.halcyon.com>
Source record: 106831

In article <313EEA78.48BA@cqg.com>, <norm@cqg.com> writes:

> I am looking for resources to help in repairing my old tube
equipment as
> well as help in building homebrew equipment. Does anyone know of a
good
> resource that could help teach me basic repairing techniques and/or
help
> in understanding schematics to aid in homebrew constructin? Any help

> would be greatly appreciated.
> Thanks, Norm N0DHO norm@cqg.com
>
You could start with Antique Electronic Supply in Arizona
phone #(602)820-5411. They have a number of books on radio
restoration, also a large selection of tubes, and other parts. Email
me if you want more info.

73 de KI7RH (Jay) jwicklun@halcyon.com

1544. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: jfsawyer@freewave.com
Message-ID: <4hlv15$18f@news-2.csn.net>
Source record: 106969
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

gherbst@msn.com wrote:
>
>> Correct you Charles.
>>
>> Gerhardt G. Herbst
>>
>Whoops...I mean correct you are Charles...
>
>Gerhardt
>

In 1982 I put a Peltier Cooler on a 8087 coprocessor in an IBM computer in an effort to speed up the clock. I had a PC board made and along with schematics and documentation. This progressed into modules for 80287's. In fact I hold the record for the highest speed attained using a 80287 in an IBM AT computer by cooling the 80287 down to -50 deg C.

I therefore have prior documented art on this invention and demand all royaties should be sent to me. <grin>

Jonathan Sawyer

FreeWave Technolgies

1545. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4hmp0u$nqk@crash.microserve.net>
Source record: 106970
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

"Thomas C. J. Sefranek" <sefranek@iii.net> wrote:

>Clearly a case of opportunism. Ah well Bill Gates can do it, why not
>this turkey?

Bill Gates' success year after year is NOT the result of taking undue
advantage of some helpless victim.

Perhaps opportunism is just another catch-all phrase coined so the
have-nots could better antagonize the haves?

73,
Jack WB3U

1546. Other radio lists

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9602078262.AA826217638@mails.imed.com>
Source record: 106971

Like y'all I got spammed by the Tai-Chi guy. One plus may have come from it though: I saw a gaggle of other amateur radio related lists at UCSD that I was unaware of.

I find this list to be incredibly useful, but I also have interests in microwave, UHF,and a few others that apparently have dedicated lists. Are any of y'all subscribed and is there any activity on those other lists?

Perhaps it would be best to reply directly and I will post results to this list.

Ray Mack
WD5IFS
mack@mails.imed.com

1547. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4hmton$o67@crash.microserve.net>
Source record: 106972

ddiamond@TRL.OZ.AU (Drew Diamond) wrote:

>Where copper has a resistivity of 1.0, silver is 0.9. Therefore,
>Unless it is done properly (and regular plater's- used only to doing
>ornamental plating may well not know); silver plating copper coils
>and cavities may actually increase their loss.

I thought the point to silver plating was that silver oxide conducts
much better than copper oxide? In other words, a silver-plated
surface will greatly outperform the copper after the material ages.

73,
Jack WB3U

1548. Re: Need books on repairing/building tube radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: gss@scsn.net
Message-ID: <4hml3k$8ak@daryl.scsn.net>
Source record: 106973

In article <313EEA78.48BA@cqg.com>, norm@cqg.com says...
>
>I am looking for resources to help in repairing my old tube equipment as
>well as help in building homebrew equipment. Does anyone know of a good
>resource that could help teach me basic repairing techniques and/or help
>in understanding schematics to aid in homebrew constructin? Any help
>would be greatly appreciated.
>Thanks, Norm N0DHO norm@cqg.com

Norm,

Old ARRL Handbooks are great for what you want as are old issues of QST.
Many libraries have back issues of QST on microfilm. I am currently
completing a cw transmitter featured in the March 1971 issue of QST. Hope
this helps.

73,
Greg, KN4NO

1549. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4hnibh$pbf@hpcvsnz.cv.hp.com>
Source record: 106974

Drew Diamond (ddiamond@TRL.OZ.AU) wrote:

: Where copper has a resistivity of 1.0, silver is 0.9. Therefore,Unless it is
: done properly (and regular plater's- used only to doing ornamental plating
: may well not know); silver plating copper coils and cavities may actually
: increase their loss.

Lessee, my reference lists copper as 1.724e-6 ohm-cm resistivity, and
silver as 1.62e-6 ohm-cm. Normalizing to copper=1 makes sliver 0.94, not
even as good as 0.9. OK, that's for DC, but things get more complicated at
RF. If you want to compare copper and (solid) silver in exactly the same
mechanical configuration, including surface finish, and the material is
several skin depths thick, then you have to account for the fact that the
skin depth is not as great in the more conductive silver, and that means
the gain is NOT 1:0.94, it is only the square root of that or 1:0.97. In
other words, the best you stand to gain is 3 percent, assuming you can keep
either the copper or the silver free of dissipative tarnish. Of course a
coating that isn't several skin depths thick won't even do that much good.

I'm just saying I think Drew is right on, even more so.

--
Cheers,
Tom
tomb@lsid.hp.com

1550. FS -- HAMMARLUND VARIABLE CAPACITORS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: Bill <debral@falcon.cc.ukans.edu>
Message-ID: <1996Mar7.162442.115563@kuhub.cc.ukans.edu>
Source record: 106975

HAMMARLUND AIR VARIABLE CAPACITORS

::::::::::::::::::::

TYPE APC

Compact, hi-quality variables. Isolantite base. Screwdriver
or hex-wrench adjust.

APC-25 3.0 - 25 mmf 9 available
APC-140 6.7 - 140 mmf 2 "

TYPE MAPC

Midget padding, trimming and general purpose capacitors similar
type APC but smaller. Ideal for small space applications. Gap
.0135 inch. Rotors and stators are nickle-plated brass.
Nickle-plated beryllium copper wiper contact. Tapped (4-40
thread) brass studs in Steatite base permit mounting without
grounding rotor. Tested at 600 volts rms, 60 cps. Slotted
shafts for screwdriver or hex wrench.

MAPC-75 3.9 - 75 mmf 6 available
MAPC-25 2.6 - 25 mmf 17 "

TYPE ???

Identical in size and shape to the type APC, but have military
part number. Rotors and stators are silver plated (tarnished).
Please note that capacitance ranges and values for this
particular group are APPROXIMATE, subject to the accuracy
of my RLC tester.

922-0004-00 2.5 - 30 mmf 9 available
CA-290 3.5 - 60 mmf 7 "

::::::::::::::::::::::

The are all NOS units and are in excellent condition (mil types are silver
tarnished).

$45 + shipping for the entire group (50 caps)

73s

Bill
AA4FM / 0

1551. Re: Need books on repairing/building tube radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4hngvd$pk4@crash.microserve.net>
Source record: 106976

norm@cqg.com wrote:

>I am looking for resources to help in repairing my old tube equipment
>as well as help in building homebrew equipment. Does anyone know of a
>good resource that could help teach me basic repairing techniques
>and/or help in understanding schematics to aid in homebrew
>constructin?

Older copies of the ARRL Handbook are great for learning basic tube theory and schematic symbols. They also have many construction articles covering transmitters, receivers and miscellaneous tube-type equipment.

For repairs and troubleshooting, I'd check the local library. Unless they've brought their entire collection up to date, they'll probably have just what you're looking for.

73,
Jack WB3U

1552. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: gss@scsn.net
Message-ID: <4hmiir$8ak@daryl.scsn.net>
Source record: 106977

Antique Electronic Supply lists a product in their catalog for do-it-yourself electroplating. Says it uses current from any 3 or 6 volt battery. The silver product cost $12.35 and the plating brush that connects to the negative side of your battery is $1.35. BTW the brass product is $2.75, the copper is $2.75 and nickel is $5.60.

73,
Greg, KN4NO

1553. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-07 00:00:00 UTC
From: frederick.mckenzie-1@kmail.ksc.nasa.gov
Message-ID: <frederick.mckenzie-1-0703961729010001@k4dii.ksc.nasa.gov>
Source record: 106978
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

In article <NEWTNews.825958328.26555.Postmaster@GGHERB.MONSANTO.COM>,
gherbst@msn.com wrote:
> That's a very blatent claim you make. This patent went through with only
> one need for clarification from the PTO. Obviously know one else sought
> such a patent which is evidence by the PTO issuing me patent # 5457342.

Gaerhardt-

I think some of us have jumped to the erroneous conclusion that your
invention duplicates prior art. On the other hand, your statements do not
clearly show how it is different from prior art.

You are looking for investors to finance development of a product that on
the surface, appears to be old technology. I suggest you revise your
"sales pitch", so that it is clear that your invention is (a) new, and (b)
of commercial value. In other words, why would one want to use your
invention instead of existing spot-cooling techniques?

73, Fred, K4DII

1554. Re: Public Domain QRP rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: gareth alun evans <gareth@cemetery.demon.co.uk>
Message-ID: <826315711snz@cemetery.demon.co.uk>
Source record: 106832
Cross-posted to: aus.electronics,rec.radio.amateur.homebrew,uk.radio.amateur

In article <4hmr1m$d7@opera.iinet.net.au>
richardh@iinet.net.au "Richard Hosking" writes:
> I have been reading posts on a public domain keyer and this seems a
> great idea. What about a QRP transceiver? I would be willing to do the
> building and testing and distribute the board artwork for those who
> want to build it. (unless someone else would do this also)
> Initially it would be necessary to settle on a specification
> (1) Philosophically - simple or complex?
> (2) Bands of interest - personally I would go for 80/40/20 or one of
> these
> (3) Power - personally I would aim for 5-10 Watts
> (4) Mode - CW or CW/SSB
> (5) What features do people want?
> (6) VFO or crystal locked?

This seems like a good idea. How about going for a rig based upon
modern semiconductor components (such as complete IF strips), but only
providing the facilities available on older valve rigs such as the
KW2000 and the FT101? - ie, basic radio without the CBer/DXer/Contester
gimmicks. What would have been a major project 20 years ago could now
be within the grasp of most hams. The only advance in the direction of
very modern electronics that I would suggest is to consider the use
of DDS to reduce the essentially difficult bits that still remain; that
of creating a stable free-running VFO together with crystal mixers.
The older style rigs, I believe, still sell well to those starting out
on radio.

--
73's de G4SDW Gareth Evans

1555. Want mods Icom IC-736

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: lion@tigger.jvnc.net
Message-ID: <DnyCKB.ADy@tigger.jvnc.net>
Source record: 106833

Hello all:
Any mods out there for the IC-736 by ICOM? Have checked oak.oakland with
no luck.

TIA
73 de Kelly
KB2SYD

1556. Interdigital filter design info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: Mark Mansfield <markman@UTM.Edu>
Message-ID: <31405DC0.11E1@UTM.Edu>
Source record: 106834

Speaking of interdigital filters, is there a ftp site on the WWW that helps one design interdigital filters. I'd like to build a bandpass filter in the 400-500MHz range and another for 800-900MHz. Maybe a interdigital filter is what I need. Any ideas on this one?

Thanks,
Mark

1557. ANTENNA SCHEMATICS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: gmp@tl.KRakow.PL
Message-ID: <Pine.LNX.3.91.960308170252.16207A-100000@antoni.tl.krakow.pl>
Source record: 106835

HELLO!
Is anyone here in possesion of antenna schematics
or *any* information how to build them ?
j need basics: material being used and the design philosophy.

I will appreciate your help
Please e-mail me at gmp@tl.krakow.pl
Thanks in advance.

1558. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4hpq5t$727@tempo.univ-lyon1.fr>
Source record: 106836

Brian Carling (brian.carling@acenet.com) wrote:

: You can BUY a transverter KIT or ready-made from TEN-TEC in Tennessee
: USA for USD $100 or 150 for ready made. It puts out 10 watts on 50 MHz
: and the i.f. is 14 MHz

I'll consider it.

: EL>I know this is B.F, but...
: B.F. ? Qu'est que c'est?

Oooops. "BF" is French "Basse Frequence" - i.e. "Low frequencies", LF.

Vince
--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1559. Re: Need books on repairing/building tube radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: Dave Hand <dhand@microdes.com>
Message-ID: <4hpjrh$s9j@jeefers.microdes.com>
Source record: 106837

Norm Hammar <norm@cqg.com> wrote:
>
> I am looking for resources to help in repairing my old tube equipment as
> well as help in building homebrew equipment. Does anyone know of a good
> resource that could help teach me basic repairing techniques and/or help
> in understanding schematics to aid in homebrew constructin? Any help
> would be greatly appreciated.
> Thanks, Norm N0DHO norm@cqg.com

Go to your local library and check them out .... I have no doubt most
librarys still have a lot of older material, mine does.

dave hand wb4hyp

1560. Re: Want mods Icom IC-736

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4hpsop$3am@peabody.colorado.edu>
Source record: 106838

There's a diode you can clip, I *think* it's D51 - I better go check; don't cut anything yet! - which gives general coverage TX, 1.5-33 MHz. You have to take the thing apart quite a ways to get to it. With that mod, and a battery-box to feed variable DC to the ALC (which is a jack on the back) the thing becomes quite a useful signal generator/local oscillator for all sorts of homebrew projects, not to mention QRP operation... you can drive the ALC way down to making the output in the milliwatt range. I will post the circuit if there is interest. It's a 9V battery, a 100 K pot, and two or three other resistors.

I know of no comparable way to increase the 6m TX coverage, or to fill in the RX gap between 33 and 46.2 MHz. If somebody does, I'd like to learn them.

I'd also like to hear from anyone who (reversibly!) disables their IC-726's final amp, and brings out the low-level signal for transverter use. I'd like to do this to mine too, but don't know where the best place to bring out the signal and to switch the final-amp bias lines are.

Finally, a few QSTs ago had a two-part series on IC 725 mods, including an RF speech compressor, better audio filtering, improved AGC turnaround, and a few other things... the articles claimed the IC 726 was electrically identical in all places covered by these mods, but I haven't done any of them. Some looked quite useful!

Bruce
N6URH

1561. Re: Want mods Icom IC-736

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: lion@tigger.jvnc.net
Message-ID: <DnypMr.60J@tigger.jvnc.net>
Source record: 106839

Yes, I am interested in the AGC schematic. Did you verify the diode to cut is in fact D51?
Thanx,
Kelly (kdl@lion.com)
KB2SYD

1562. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar8.191533.25450@ke4zv.atl.ga.us>
Source record: 106840

In article <4hnibh$pbf@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:
>Drew Diamond (ddiamond@TRL.OZ.AU) wrote:
>
>: Where copper has a resistivity of 1.0, silver is 0.9. Therefore,Unless it is
>: done properly (and regular plater's- used only to doing ornamental plating
>: may well not know); silver plating copper coils and cavities may actually
>: increase their loss.
>
>Lessee, my reference lists copper as 1.724e-6 ohm-cm resistivity, and
>silver as 1.62e-6 ohm-cm. Normalizing to copper=1 makes sliver 0.94, not
>even as good as 0.9. OK, that's for DC, but things get more complicated at
>RF. If you want to compare copper and (solid) silver in exactly the same
>mechanical configuration, including surface finish, and the material is
>several skin depths thick, then you have to account for the fact that the
>skin depth is not as great in the more conductive silver, and that means
>the gain is NOT 1:0.94, it is only the square root of that or 1:0.97. In
>other words, the best you stand to gain is 3 percent, assuming you can keep
>either the copper or the silver free of dissipative tarnish. Of course a
>coating that isn't several skin depths thick won't even do that much good.
>
>I'm just saying I think Drew is right on, even more so.

Perhaps, or perhaps not. Since a lot of RF conductors are silver
plated, and silver isn't cheap, it seems a bit hard to swallow
that those hard headed manufacturing engineers are doing it just
for decoration, especially since most of that silver plate is never
seen by the customer. Even Detroit doesn't chrome plate the *inside*
of its engines without a sound technical reason.

So perhaps we're overlooking a factor here. I think Jack may have
given us a clue. Lets see what the oxides of the two metals look
like. Right away we notice something striking. CuO has a magnetic
susceptability of +267 while AgO has a magnetic susceptability of
-19. Hmmm... now that seems to put us on the footing where we found
ourselves when discussing steel wire for antennas a few months back.
(By way of comparison, the magnetic susceptability of FeO is 293.)
The much higher magnetic susceptability of CuO means the skin depth
will be *very* thin, and net skin resistivity very high. Meanwhile,
the negative value for AgO means that the skin depth will be greater
than anticipated, so the margin between the two for RF seems much
greater than 3%.

Figures are from the CRC Handbook, 47th edition, table starting
on page E-103.

As with steel versus copper for antenna wires, we have to look
beyond DC resistance to find out which material is better suited
to the task. It turns out that oxidized copper is almost as bad
as oxidized steel as an RF conductor. That shouldn't surprise
us, corroded coax (from water wicking into the braid) is a very
lossy medium. Now we know why.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1563. Re: TRF etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar8.193921.25583@ke4zv.atl.ga.us>
Source record: 106841

In article <Dnr815.wn@indep1.chi.il.us> clifto@indep1.chi.il.us (Clifton T. Sharp) writes:
>Yes, it's easy to put together a receiver using something like an NE602,
>or any one of the nifty chips out there. A TDA1072 has a sensitivity
>of 15 uV for 26 dB S/N. But I won't LEARN anything by doing it, as
>I've done enough home projects and kits over the years to make it
>little more than an afternoon's busywork.

Duplicating in discretes what you can do in chips only gives you more
practice *soldering*. If you study how the chip works, you'll learn
as much as you will studying the discrete equivalent, if not more.
Unless you just particularly like extra wiring and soldering, there's
no real reason not to use a chip, except maybe if you think you are
a better designer than the chip designer.

The latter is possible, if your design goals are different from those
of the chip designer, of course. I advocate working at the highest level
of integration that meets your performance goals. I'd suggest that's mostly
at the chip level today, with a few discrete odds and ends thrown in to
satisfy some unique features you may desire, or to act as glue bits to
tie chips together.

Instead of a 6 transistor radio, I'd suggest you'll often do better
with a 600 transistor radio, with those transistors housed in a couple
of chips. Especially for circuitry calling for matched devices, you'll
do better using transistors on the same substrate than you will trying
to use discrete devices (a Gilbert cell mixer is one such application).

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1564. Re: TRF etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4hq7c7$psj@abyss.West.Sun.COM>
Source record: 106842

In article <1996Mar8.193921.25583@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>In article <Dnr815.wn@indep1.chi.il.us> clifto@indep1.chi.il.us (Clifton T. Sharp)
writes:
>>Yes, it's easy to put together a receiver using something like an NE602,
>>or any one of the nifty chips out there. A TDA1072 has a sensitivity
>>of 15 uV for 26 dB S/N. But I won't LEARN anything by doing it, as
>>I've done enough home projects and kits over the years to make it
>>little more than an afternoon's busywork.
>
>Duplicating in discretes what you can do in chips only gives you more
>practice *soldering*. If you study how the chip works, you'll learn
>as much as you will studying the discrete equivalent, if not more.

These sentences seem to imply that it is always better to use an
IC for a particular function rather than a circuit composed of
discretes. This is not true. ICs offer some significant advantages
over discrete designs, particularly very compact size and highly
repeatable behavior. Also, monolithic semiconductors tend to have
excellent matching, a specific advantage for a balanced mixer.
However, these advantages may not be so important for a particular
project. Passive diode mixers still offer some of the best overall
performance you're going to see in a mixer, and even a fairly cheap
diode DBM has better strong signal performance than an NE602.
Granted, the NE602 mixer has gain *and* an oscillator on chip,
but this isn't necessarily a compelling reason to select the single
chip over the dozen components. It really depends on the application.

>Unless you just particularly like extra wiring and soldering, there's
>no real reason not to use a chip, except maybe if you think you are
>a better designer than the chip designer.

The chip designer operates inside a set of tradeoffs, just like the
discrete designer. A chip may be intended for a particular application,
and less than optimal in another application where a fairly simply
discrete circuit works better. Two of the major reasons for using
an IC is to reduce size and improve manufacturability, which can
adversely impact the performance of the circuit in comparison to
a discrete circuit where size, manufacturability or even power
consumption aren't issues.

>The latter is possible, if your design goals are different from those
>of the chip designer, of course. I advocate working at the highest level
>of integration that meets your performance goals. I'd suggest that's mostly
>at the chip level today, with a few discrete odds and ends thrown in to

>satisfy some unique features you may desire, or to act as glue bits to
>tie chips together.

Now, after having appeared to disagree with you, I'll emphatically
agree with this paragraph. Figure out what functionality and performance
is desired, then examine all available solutions. My disagreement
is the notion that chips are always going to be better; this kind of
prejudice is what causes people to use a $3 chip where a $.10 transistor
would do a better job.

>Instead of a 6 transistor radio, I'd suggest you'll often do better
>with a 600 transistor radio, with those transistors housed in a couple
>of chips. Especially for circuitry calling for matched devices, you'll
>do better using transistors on the same substrate than you will trying
>to use discrete devices (a Gilbert cell mixer is one such application).

Another example of where an IC is the obvious answer is an FM
receiver IF strip. Even if all you ever look at is the Motorola
databook, there are several excellent options there. But, a receiver
front end is a different story. The kinds of chips that make sense
in a receiver front end are quad hot carrier diodes and quad DMOS FETs.
;-)

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1565. Interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: tguyer@ix.netcom.com
Message-ID: <4hq9ja$nfa@dfw-ixnews2.ix.netcom.com>
Source record: 106843

I would like to home brew an RS232 to TTL interface for my Kenwood TS850SAT. Can someone help me with a circuit? Thanks and 73's Tom WB2ENV

1566. 11 to 6 meters!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: tnbiesheuvel <tnbiesheuvel@tn.tudelft.nl>
Message-ID: <4hqd3r$q3f@cyber.tn.tudelft.nl>
Source record: 106844

From pe1pdc, evert verduin, The netherlands:

Some while ago, I found an article on the packet network,
which was about modifying 11 meter cybernet radio's to 6 meters.
The article was written by .. an australian amateur.

if someone can use this article, just leave a note in this newsgroup.
ax25: pe1pdc
e:mail ; tnbiesheuvel@www.tn.tudelft.nl

1567. AD7008 DDS Chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: "Robert A. French" <FrenchRA99.CS36@banyan.usafa.af.mil>
Message-ID: <3140C888.7F52@banyan.usafa.af.mil>
Source record: 106845

Anyone know how much the Analog Devices AD7008 direct digitial synthesis chip costs in single unit quantities? Also, where would I get it from? Thanks.

Robert

1568. Re: need ferrite beads to pass 6-khz, suppress 25-khz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: Paul Mathews <optoeng@whidbey.com>
Message-ID: <3140CAF9.39BB@whidbey.com>
Source record: 106846
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Alan M. Horowitz wrote:
>
> I shouldn't throw away my QST's after reading them, I guess!
>
> I need a ferrite bead that will keep a 25-khz spurious square-wave (it's
> a legitimate clock signal in another board) from entering my receiver's
> a-to-d.

You are unlikely to find any beads that are effective at such low
frequencies. However, regular multi-turn inductors and bypass caps
should do the job for you if the interference is, in fact, being
conducted as opposed to radiated.

--
Paul Mathews, consulting engineer
AEngineering Co.
optoeng@whidbey.com
non-contact sensing and optoelectronics specialists

1569. ELECTRONIC TESTING EQUIPMENTS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-08 00:00:00 UTC
From: Adriano Sgarbi <adr@datas.it>
Message-ID: <31400353.2B14@datas.it>
Source record: 106847
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

ELECTRONIC TESTING EQUIPMENTS at

http://www.datas.it/~aea/

1570. Re: Need books on repairing/building tube radios

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4hqm0d$j76@globe.indirect.com>
Source record: 106848

Norm Hammar <norm@cqg.com> wrote:

>I am looking for resources to help in repairing my old tube equipment as
>well as help in building homebrew equipment. Does anyone know of a good
>resource that could help teach me basic repairing techniques and/or help
>in understanding schematics to aid in homebrew constructin? Any help
>would be greatly appreciated.
>Thanks, Norm N0DHO norm@cqg.com

I have several books by Abraham Marcus on servicing tube-era radios.
They are superb, and are relatively common on the used book market,
since every radio repair shop had one on the shelf in the back room up
through the Sixties. I want to say the title is something like RADIO
SERVICING although the book isn't here at the office and I may not be
recalling it perfectly. It went through numerous revisions and I have
three of them.

RCA's RADIOTRON DESIGNERS MANUAL (or something close to that) is
another standard worth snagging when you see it on the used market.
It was published from the Thirties through the Fifties. I have two
editions of that as well, and there's nothing like it for
tube-oriented design.

As for tube homebrewing, hit the hamfest circuit and start
accumulating QSTs from the Fifties and Sixties. You can't do better
than that for good projects.

You might also subscribe to ELECTRIC RADIO magazine, which has been
publishing nice tube projects in the last year or two.

Good luck with it and let us know how you do.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

1571. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4hrf1o$9tn@crash.microserve.net>
Source record: 106849

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>I don't know exactly *why* paint gives a crackle finish (it has
>something to do with the solvent and color coat drying times), but I
>do know that the black gives the best crackle finish. Use that as an
>*undercoat* and just use ordinary paint over it to get the color you
>want.

Also make sure the color coat isn't lacquer-based or it may cause the
crackle paint to lift off the surface. To identify lacquer, look for
nitrocellulose as one of the ingredients. A dry time of less than
a half hour usually also indicates lacquer (or one of its cousins).

73,
Jack WB3U

1572. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4hrmaq$ci@newsbf02.news.aol.com>
Source record: 106850

In article <4hnibh$pbf@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com (Tom Bruhns) writes:

> In
>other words, the best you stand to gain is 3 percent, assuming you can keep
>either the copper or the silver free of dissipative tarnish. Of course a
>coating that isn't several skin depths thick won't even do that much good.
>
>I'm just saying I think Drew is right on, even more so.
>
>

As a designer of RF equipment for several manufacturers, including commercial equipment, I can tell you why these manufacturers silver plate coils.

They do it because it looks and solders better, or because of marketing. After all, some things are just "supposed to be silver plated".

If the goal was to prevent conductivity loss from corrosion, the coil would be coated with a very thin dielectric. It's cheaper and works just as well. In the real world, there is no worthwhile improvement in coil Q from silver plating.

As I said earlier, it's like mag wheels with wide tires on a Toyota. 99% show.

Contacts are another story, however.

73 Tom

1573. Re: ferrite beads

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4hsde5$7uu@newsbf02.news.aol.com>
Source record: 106851

In article <69645@uugate.wa7slg.ampr.org>, ka7oei@uugate.wa7slg.ampr.ORG writes:

>
>A typical application of a ferrite bead is on an audio or DC control line
>where the maximum frequency you want to pass without hindrance is, say,
>20 KHz. A typical bead would be useful to block VHF, and maybe HF energy
>(although for HF, you may want to use more than one bead, or consider
>using capacitors, too, if you haven't already done so...)
>
>So, the bead is invisible (for the most part) at 20 KHz, and, for that
>matter, it's likely insignificant at 200 KHz, or perhaps even 2 MHz, but
>at, say, 20 MHz, it's effects start to be apparent. If, in the above
>example, you want to pass 20 KHz energy, but want to effectively block
>200 KHz energy (or even 2 MHz energy) it is ***NOT*** a bead that you
want
>to use, but a *real* full-blown lowpass filter... but that's another
>story...
>
><Clint>
>KA7OEI

A very good answer Clint! Right on target.

1574. Re: Need 1n78 point contact mixer diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4hsn4r$c08@newsbf02.news.aol.com>
Source record: 106852

I tried the Hot carrier diode approach, specifcally the 1N5711 priced at 55 cents. It actually worked up to around 7 GHZ and would have gone higher I think. The sensitiviy seemed greater than the orignal mixer. However when sweeping it I did see a lot of peaks and valleys or resonances. How ever I don't have it properly packaged inside of the mixer, that circular "T" piece is not in there. Maybe that will help I will try it next.

Thanks for the suggestion,

Viny Coppola N1VC

1575. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: billj@calweb.com
Message-ID: <4hrprg$od6@news.calweb.com>
Source record: 106853

I would futher suggest that silver plate on "CLEAN" copper could be very thin as it only has to protect the copper from corrosion. Silver on other metals such as brass should probably be as thick as the skin depth for the frequency in use.
Bill K7NOM

1576. Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: trips@gypsy.topend.com.au
Message-ID: <4hs98c$cc@pigdog.topend.com.au>
Source record: 106854

I have a stupid question about the priciple of radios.

I've always been told that a voltage needs a conductor in order for current to flow. So how does an alternation volage of say 30v and freq 27mhz leave the antenna if it needs a conductor?

I though electricity cannot go through open air except for VERR high voltages.

1577. XR2211

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: victorg@barrancas.com
Message-ID: <8297-273259401@barrancas.com>
Source record: 106855

I am looking to build a packet modem around the xr2211, I need a
schematics for it and for tx too.
Sorry, I don't speak english.

Thanks.

LU 6 ENC

1578. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: paul@laughton.com
Message-ID: <4hr82l$svb@sun.sirius.com>
Source record: 106856
Cross-posted to: sci.astro.amateur,rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna,misc.invest.technical,misc.invest.stocks,misc.invest.funds,misc.invest.canada

gherbst@msn.com wrote:

>Gerhardt G. Herbst II, is the patent holder for "Cold Spot Module".
>This product is for sale to an individual or manufacturer.

>The "Cold Spot Module" is used to effectively reduce the operating
>temperature of integrated circuits such as computer CPUs to maintain
>reliability under extreme operating conditions. This module is protected
>under a U.S. Utility Patent issued in October of 1995. A Utility patent
>provides the strongest protection under U.S. law.

>An independent North American Market Study was done on the product and the
>potential market has been identified.

>The product has not yet been introduced to the general public but is referenced
>in the U.S. Patent catalog which is posted periodically. For an on-line reference
>refer to:

>http://www.uspto.gov

>Search on Patent Number: 5457342

>The title abstract is: Integrated circuit cooling apparatus

>Note: A search on just the patent number will bring up the details.

>Exclusive rights can be purchased reasonably with negotiable license term.

>For further information, contact Gerhardt G. Herbst II.

> Gerhardt G. Herbst II
> 133 Wynstay
> Valley Park, MO 63088
> Phone: (314) 861-0426
> E-mail: gherbst@msn.com

Having investigated this patent, it appears to cover a very, very
narrow area of widely used prior art. I particular it is a device that
can be added to an existing IC in an existing circuit to cool a single
IC. The
method of coolling (peltier junction, heat sink and fan) has been used
in many different fields - so there is nothing new here.

As far as it practical value, you would have to have room in the
device enclosure to add the add-on cooler, an method of
expelling the removed heat from the enclosure and some source of power

for the add-on
device(s). The needed additional room sounds sgnificant with the heat sink and fan. For each IC you needed to cool, you would need a seperate device.

It also appears that this patent is not even a very good replication of the
prior art of IC cooling. In the abstract it does not mention any method of regulating the IC being cooled. A peltier device will lower the temp of it host device by a certain level from the ambiant temperature. This means that as the ambiant temperature changes, so will the temperature of the cooled device. Regulation sets the device temperature at something less then the full cooling capability of the peltier junction and then monitors the temperature and regulates the peliter junction to insure the
cooled device stays at a constant temperature.

If the cooler is unregulated, then wild swings in ambiant temperature will produce wild swings in the device temperature.

In my humble opinion, this patented device is not worth much. It does not do the job well. There is so much prior art in this field that one could create a slightly different device and not be in conflict with this patent and would probably do a better job.

-Paul
N6BVH

1579. Re: VOX switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-09 00:00:00 UTC
From: Brett Kollar <bkollar@maui.netwave.net>
Message-ID: <3141EB84.58F2@maui.netwave.net>
Source record: 106857

David Messinger wrote:
>
> Paul Temple (patemple@ix.netcom.com) wrote:
> : Hello,
> : I am in need of a cheap easy to build VOX switch. Does anyone have any
> : plans for makeing one I could have? If so could you tell me where I
> : can find them please email me.
> : TNX
> : 73 DE KF4GDH
> : email me at:
> : patemple@ix.netcom.com

Try the December 1990, 73 Amateur Radio Today. About $5 in parts and a
little bit of your time...

bkollar@maui.netwave.net

1580. Silver Plating

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-10 00:00:00 UTC
From: Brad Duffield <gsa00011@wvnvm.wvnet.edu>
Message-ID: <3142947D.5626@wvnvm.wvnet.edu>
Source record: 106858

To all:

Since I first posted a message wanting info
on plating I have found a source of info on
the subject..A company in called Dalmar in FL
makes just what us hams are looking for..They
carry all types of plating supplies for all type
kinds of things, Non Cyanide Silver Solution
being one of them..I have talked to them on
the telephone and have found them very willing
to help with questions..They will send you
a free catalog, but you can also shop them here
on the internet..<http://peganet.com/dalmar/dalmarhm.html>

73 Brad WB8MZI

1581. Re: Silver Plating? An alt...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-10 00:00:00 UTC
From: Brad Duffield <gsa00011@wvnvm.wvnet.edu>
Message-ID: <31429B7E.7AF0@wvnvm.wvnet.edu>
Source record: 106859

To All:

Since I first posted a request form info
on plating I found a source.. Dalmar a
company in FL makes just what us hams
are looking for..They carry all kind of
plating supplies (one being non Cyanide
Silver Solution). I talked to them on the
phone and they are willing to help with
questions..They well send a free catalog,
but you can shop them here on the internet
at <http://www.peganet.com/dalmar/dalmarhm.html>

73 & Happy Plating

Brad WB8MZI

1582. Re: AD7008 DDS Chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-10 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <826478420snz@lfheller.demon.co.uk>
Source record: 106860

In article <3140C888.7F52@banyan.usafa.af.mil>
FrenchRA99.CS36@banyan.usafa.af.mil "Robert A. French" writes:

> Anyone know how much the Analog Devices AD7008 direct digitial synthesis
> chip costs in single unit quantities? Also, where would I get it from?
> Thanks.

It was a few months ago, and the distributor I asked (Polar Electronics
here in the UK) said they were on allocation, but I was quoted about #25
(UK). Someone who got a couple of free samples from Analog gave me one
of them - thanks, Colin. 8-)

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

1583. Spread Spectrum

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-10 00:00:00 UTC
From: nrj@cdx.net
Message-ID: <4hvi8k$h1b@news.bellglobal.com>
Source record: 106861

Are there any web sites, news groups, etc which focus on spread spectrum. I am interested in building some SS links, but would like additional "how to" material. Acquiring and locking of signal at the RX end is the most importandt info I am presently seeking. Any and all help would be greatly appreciated.

Thanks

Rob

1584. Mods for KW TM-3530A and KDK FM-2030

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-10 00:00:00 UTC
From: shephed@gnn.com
Message-ID: <4hvct9$7ur@news-e2c.gnn.com>
Source record: 106862

Are there any mods for the Kenwood TM-3530A or the KDK FM-2030?

Thanks, N8VZU (Dan)

1585. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4husc0$72d@newsbf02.news.aol.com>
Source record: 106863

Sometimes we get a little lost in the physics. The easiest thing to do is examine some real world coils, I've done that with new coils and silver plating makes no worthwhile change in unloaded Q. If the goal is to prevent surface resistance shange, the coil can be lightly clearcoated or tinned. The amateur user will never notice the performance difference, unless it's a sliding or moving contact.

I hope people don't start thinking siver plating makes a big difference, copper clad steel is a bad RF conductor, or a steel slug will increase the inductance of a coil at high frequencies.

73 Tom

1586. Re: Silver Plating

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-10 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.92.008890D5@azstarnet.com>
Source record: 106864

In article <3142947D.5626@wvnvm.wvnet.edu> Brad Duffield <gsa00011@wvnvm.wvnet.edu>
writes:
>Subject: Silver Plating
>From: Brad Duffield <gsa00011@wvnvm.wvnet.edu>
>Date: Sun, 10 Mar 1996 00:37:41 -0500

>To all:
[snip]

>They will send you
>a free catalog, but you can also shop them here
>on the internet..<http://peganet.com/dalmar/dalmarhm.html>

>73 Brad WB8MZI

This URL doesn't work for me.

1587. PCB software for WIN95

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-10 00:00:00 UTC
From: ernie@netvision.net.il
Message-ID: <4hv8n3$sel@news.NetVision.net.il>
Source record: 106865

Hi
Can someone specify a recommended program and a possible download site
for a PCB software for win95 ?
Thanks in advance from Isaac (Tsachy), 4Z4TL

1588. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4i0ran$ql4@tempo.univ-lyon1.fr>
Source record: 106866

Dana Myers (myers@West.Sun.COM) wrote:

Dana,

: I'd pick the J310 over the MPF102, hands down.

I thought about the J310. But the curves I have (Motorola's Small
signal BJT and FET data) end up at 100 MHz and do not go below.

And there is no such thing like a NF evaluation...

Maybe you're right though and I should measure it.

Vincent

--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1589. Realy amazing kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: Steven B Reed <kb8stb@ix.netcom.com>
Message-ID: <3144127E.23D9@ix.netcom.com>
Source record: 106867

#1004 100 WATT (PEP) WALKIE TALKIE

Make any walkie talkie get out with the power of the big guys. This tiny
power converter requires less than 1 watt of driving power to
create a 100 watt PEP output. Even so, the power consumption is less
than 2 watts of energy, so it will operate for long periods on its
small battery pack. Note: This device was designed for use in remote
areas of the world and is not approved by the FCC for use on
the citizens band.

PLANS ONLY KIT #1004 POK . . . . . .
$19.95

So it will just make the other 98 with its good looks.... Didn't some
one write a law about conservation of energy or some other nonsense...
On the other hand, if you hold a 100W ant 6 inches from your head you
could come up with all kinds of neat plans.
==========

#1005 POCKET PAGER

This tiny pocket paging system was designed for rapid signaling of any
person carrying a similar device up to 3000 miles away.
(Shades of Napolean Solo, "Open channel D";) Not a talking system,but
rather a signaling or paging type system. IC circuitry
transmits hundreds of miles in less than 10 milliseconds.

PLANS ONLY KIT #1005 POK . . . . . .
$19.95

At least the radio waves from this one don't travel faster than the
speed of light. (I didn't do the math, just making a guess!!)

Just thought everyone might enjoy reading these!!!!!!
--
'73 from KB8STB & KB8ZKP
Steven & Sylvia Reed

1590. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: Steven B Reed <kb8stb@ix.netcom.com>
Message-ID: <31441270.395@ix.netcom.com>
Source record: 106868

WB3U wrote:
>
> trips@gypsy.topend.com.au (Lysergic Acid Diethylamide) wrote:
> >I have a stupid question about the priciple of radios.
> >
> >I've always been told that a voltage needs a conductor in order for
> >current to flow. So how does an alternation volage of say 30v and
> >freq 27mhz leave the antenna if it needs a conductor?
>
> There is no logical explanation for anything that leaves an antenna at
> 27 MHz.

The above is true!!!

To answer the question.....

Antennas are electric circuits of a special kind. In ordinary circuits,
the dimensions of coils, capacitors and connections usually are small
compared with the wavelength that corresponds to the frequency in use.
When this is the case, most of the electromagnetic energy stays in the
circuit itself, and is either used up in performing useful work or is
converted into heat. But when the dimensions of wiring or components
become appreciable compared with the wavelength, some of the energy
escapes by radiation in the form of electromagnetic waves. When the
circuit is intentionally designed so that the major portion of the
energy is radiated, the circuit is an antenna.
(1991 ARRL Antenna Book Ch2 first paragraph)

What actually "leaves" the ant is a Magnetic field.
the only stupid question is one that dosen't get asked!
--
'73 from KB8STB & KB8ZKP
Steven & Sylvia Reed

1591. Re: Announsing: Technology Patent Available For Purchase

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: gherbst@msn.com
Message-ID: <NEWTNews.826564341.13885.Postmaster@GGHERB.MONSANTO.COM>
Source record: 106869
Cross-posted to: rec.radio.amateur.space,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.antenna

> Amen, Jim. If this thing works like this guy spells, he's got a tough sell.

>
> "Announsing", "blatent" and "know one else" indeed. I don't know what his
> device is, because searching for the number didn't work for me. Sounds like
a
> Peltier device, but I guess it could be cold fusion.
>
> 73, Wes -- N7WS
>
Always nice to see a couple of smarta*sses on the net..Hi fellows

Gerhardt-

1592. WARP WAS-1 AUTO SWR SCHEMATICS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: daly@eagle.rtc-waterford.IE
Message-ID: <9603111317.AA29454@eagle.rtc-waterford.ie>
Source record: 106870

I HAVE OBTAINED A WARP WAS-1 AUTO SWR METER WHICH HAS A NUMBER OF WIRES
DISCONNECTED (DAMAGED) IT ALSO HAS NO REMOTE SENSORS.
DOES ANYONE HAVE SCHEMATICS SO I CAN REPAIR THE MAIN UNIT AND IS IT
POSSIBLE TO BUY OR BUILD A REMOTE SENSOR FOR IT...(THIS UNIT
ONLY WORKS WITH REMOTE SENSORS IT HAS NO OTHER SOCKETS)
I REALLY WANT TO REPAIR THIS UNIT....
I WILL COVER ANY COSTS OF OBTAINING THESE SCHEMATICS.
PLEASE IF YOU HAVE ANY INFO MAIL ME AT ADDRESS BELOW.

daly@eagle.rtc-waterford.ie

thanks in advance

WARREN EI6ETB

1593. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: st11@ita.pwr.wroc.PL
Message-ID: <199603110949.BAA09041@UCSD.EDU>
Source record: 106871

```
subscribe
```

1594. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: ecgallup@mlode.com
Message-ID: <4i0bde$j4n@news.wco.com>
Source record: 106872

In article <4i0adr$s91@crash.microserve.net>, jackl@pinetree.microserve.com (WB3U) wrote:
> trips@gypsy.topend.com.au (Lysergic Acid Diethylamide) wrote:
>>I have a stupid question about the priciple of radios.
>>
>>I've always been told that a voltage needs a conductor in order for
>>current to flow. So how does an alternation volage of say 30v and
>>freq 27mhz leave the antenna if it needs a conductor?
>
>There is no logical explanation for anything that leaves an antenna at
>27 MHz.

That ^ is good! However, to answer the poor guy's original question,
a voltage does NOT leave the antenna. The voltage IN the antenna induces an
electroMAGNETIC wave which leaves the antenna.

Ed WB6SAT

1595. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4i1udi$rjq@nadine.teleport.com>
Source record: 106873

In article <4hvu20$afd@dfw-ixnews4.ix.netcom.com>,
wa4upe@ix.netcom.com (Tony King) wrote:

>. . .
>"most relate to small signal work... surface oxide of other metals can
>cause rectification or loss of contact between mechanical connections"
>. . .

>The problem: after time, the surfaces do oxidize. Of particular
>interest is the contact between the fingers in the adjustable parts of
>the duplexer against the bare copper.
>. . .

Ah, CONTACTS. Now, that's an altogether different question! Start that
thread at your peril -- it's certain to turn into a rope!

73,
Roy Lewallen, W7EL

1596. Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: turtle@wwa.com
Message-ID: <4i1vl3$o18@kirin.wwa.com>
Source record: 106874

I am looking for a CK722 Philco transistor. It was in a blue case and I need one for nostalgia purposes. It was my first transistor radio project as a young ham.

TNX Gary KF9CM

1597. Re: Here are some IC-726 mods, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: lion@tigger.jvnc.net
Message-ID: <Do4F76.IA3@tigger.jvnc.net>
Source record: 106875

I intend to give it a try one of these days. Not real important, just want to play around a bit. I'll look up D5 on the schematic and see where it is connected to/from.

Thanks for all the assistance.

Kelly (KB2SYD)

1598. Ham Radio Online March 11th, 1996

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4hvrho$j2g@news.accessone.com>
Source record: 106876
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics

We keep adding new feature stories and newsletters throughout the month. Watch our site for an upcoming digital video segment you can download - actual ATV footage shot from a remote controlled helicopter and an R/C airplane, including as the wing collapses and the R/C plane spirals into the ground!

Lots more stuff too including real-time propagation and auroral condition reports, SWL/Broadcast listening information, emergency communications including real-time quake/volcano/sever weather updates, plus our online library and humor sections - and even more.

And we are free, free of ads, self-supported. Just plain the coolest Amateur Radio Web site available. Stop on by at
http://www.accessone.com/~vbook/hronline.htm

Enjoy!
73, Ed, KF7VY

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

1599. Re: Need 1n78 point contact mixer diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: "Mr. Brooke Clarke" <brooke@pacific.net>
Message-ID: <3144668F.2F70@pacific.net>
Source record: 106877

VINY N1VC wrote:
>
> I tried the Hot carrier diode approach, specifcally the 1N5711 priced at
> 55 cents. It actually worked up to around 7 GHZ and would have gone higher
> I think. The sensitiviy seemed greater than the orignal mixer. However
> when sweeping it I did see a lot of peaks and valleys or resonances. How
> ever I don't have it properly packaged inside of the mixer, that circular
> "T" piece is not in there. Maybe that will help I will try it next.
>
> Thanks for the suggestion,
>
> Viny Coppola N1VCViny:

When using Schottky (Hot Carrier) diodes in a mixer, you can improve performance by matching the diode barrier height (Vf @ 1 ma.) to the L.O. power level. HP, MA-COM, Metelics and others make a line of diodes with different barrier heights low, medium, high, extra high.

Have Fun,
Brooke

1600. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4i155k$ncc@nadine.teleport.com>
Source record: 106878

In article <4hvkv5$r7a@hpcvsnz.cv.hp.com>,
tomb@lsid.hp.com (Tom Bruhns) wrote:

>. . .

>And here are the relationships between permeability and susceptibility
>(from "Reference Data for Engineers"):
>
> u = u0 + J/H
>
>where
> u = permeability
> u0 = freespace permeability, 1.2576*10^-6 joules/tesla
> J = magnetic polarization
> H = magnetic field strength
> J/H = susceptibility

>. . .

Tom,

Thanks for the clarification! The "magnetic susceptibility" referred to in my physics book is apparently more correctly "relative magnetic susceptibility" since it's dimensionless -- that's what threw me off. With the definition you've used, the data in the CRC book make sense.

Roy Lewallen, W7EL

1601. Help with identifying coax.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-1103961215250001@amber1.ultranet.com>
Source record: 106879

I have some high quality double-shielded Teflon dielectric coax for which I would like to get some precision N connectors. The coax is unmarked however, and the connector suppliers I've contacted tell me they need a UG number or other identifier inorder to provide the correct connector. Can anyone help identify this cable? The outer sheath is a very slick plastic (HMW polyethelene?), lavender in color, about 0.275" diameter. The silver-plated braided shield beneath is about 0.190 diameter, and is separated from the spiral wound flat inner shield (O.D. 0.150") by a thin layer of wrapped teflon. The stranded central conductor, inside more wrapped teflon, is silver-plated, 0.056" O.D. (15 guage), and contains 19 28 or 29 gauge strands.

Any body got a field guide to coax?

Thanks in advance for all responses.

Cheers,

Jon

1602. mods. FT780-R ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: pe1obu@pi.net
Message-ID: <NEWTNews.5992.826571560.marco@pi-user.pi.net>
Source record: 106880

Hello I'm looking for the modifications to change
the shift from 7.6 MHz to 1.6MHz. I know that it can be
done but I would like to know how.
Also I'm looking for the push buttons used for f-set and DIL functions
I lost them in the field during a contest.

Any help is welcome.....

73' Marco de PE1OBU@PI.NET

1603. Re: need 11 to 6 meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn4k74su.kv.mulveyr@ll.aa2ys.ampr.org>
Source record: 106881

On Mon, 11 Mar 1996 03:47:28 GMT, McCarthy <amman@airmail.net> wrote:
>looking for plans on going from 11 meters to 6 meters.
>does anyone have any plans? I will cover any cost.
>

Well, first you have to study for the licence...

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com
aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

1604. Re: [Q] PC switching PS mods ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-11 00:00:00 UTC
From: Jake Middlebrook <JMiddlebrook@delphi.com>
Message-ID: <4i25o0$5mm@theopolis.orl.mmc.com>
Source record: 106882

s51fu@s55tcp.ampr.ORG wrote:
>Has anyone made 5 Volt PC switching power supply modification to 13.8 Volt ?
>thanks info, Danilo +
Your first problem will be the transformer its turns ratio is for 5 volts
while it will probably go to 6 or 7 13.8 will require a ratio change.
Next problem output cap is probably a 5 volt working cap need to change
that diodes may have a piv problem you probably need more inductance in
the filter choke

In short I'm a power supply engineer and I'd hate to try and do that in
my home shop its probably not worth the effort unless you just want to
learn about switching power supplies

gud luck

Jake

1605. PLEASE HELP! Schoolproject on making phonecentral/intercom-thing-like-thingy!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: tmvs-023@telepost.no
Message-ID: <4i3iii$ish@nms.telepost.no>
Source record: 106883

```
Could anyone help me! I'm making a phonecentral with three
old-type pulse-phones as my school-project. The central is not to be
connected with public-net, the use is only intercom-like.
```

Marius Hovland Tj&#65533;me,Norway
E-mail : tmvs-023@telepost.no

1606. Re: Help with identifying coax.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Mar12.164924.7023@ucl.ac.uk>
Source record: 106884

In article 1103961215250001@amber1.ultranet.com, acj@ultranet.com (Jon Goguen) writes:
> I have some high quality double-shielded Teflon dielectric coax for which
> I would like to get some precision N connectors. The coax is unmarked
> however, and the connector suppliers I've contacted tell me they need a UG
> number or other identifier inorder to provide the correct connector. Can
> anyone help identify this cable? The outer sheath is a very slick plastic
> (HMW polyethelene?), lavender in color, about 0.275" diameter. The
> silver-plated braided shield beneath is about 0.190 diameter, and is
> separated from the spiral wound flat inner shield (O.D. 0.150") by a thin
> layer of wrapped teflon. The stranded central conductor, inside more
> wrapped teflon, is silver-plated, 0.056" O.D. (15 guage), and contains 19
> 28 or 29 gauge strands.
>
> Any body got a field guide to coax?
>
> Thanks in advance for all responses.
>
> Cheers,
>
> Jon

Both Times and Shuner do decent catalogues that have coax dimensions and type no.

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

1607. Re: Silver Plating

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar12.171126.16677@ke4zv.atl.ga.us>
Source record: 106885

In article <4i1bkc$rpr@msunews.cl.msu.edu> flegler@pilot.msu.edu (Stanley L. Flegler) writes:
>Several postings ago it was stated that CuO has a magnetic susceptability
>of +267. Does this mean that the bare copper HF antenna that I put up
>last fall will start to become very inefficient as oxides (or chlorides)
>start to form? 73 Stan K8RPA, flegler@pilot.msu.edu

Apparently not.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1608. Re: FCC-Out of Control??? Please Read

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.95.00202397@azstarnet.com>
Source record: 106886

In article <4i34kg$m9@news.internetmci.com> drbs.rick.eutsler@internetmci.com (Rick Eutsler) writes:
>From: drbs.rick.eutsler@internetmci.com (Rick Eutsler)
>Subject: FCC-Out of Control??? Please Read
>Date: Tue, 12 Mar 1996 09:13:10 GMT

By his spamming, it appears that Mr. Eutsler is the one out of control. It also sounds like these guys got what they deserved.

1609. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar12.183923.17244@ke4zv.atl.ga.us>
Source record: 106887

In article <4i37j1$ab3@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>In article <4hs98c$cc@pigdog.topend.com.au>, trips@gypsy.topend.com.au
>(Lysergic Acid Diethylamide) writes:
>
>>I've always been told that a voltage needs a conductor in order for
>>current to flow. So how does an alternation volage of say 30v and freq
>>27mhz leave the antenna if it needs a conductor?
>>
>>I though electricity cannot go through open air except for VERR high
>>voltages.
>
>Hi Pigdog,
>
>This is one of the big effects of the universe. Whenever an electron is
>accelerated or moved, all the other electrons in the universe try to
>re-adjust to the change. So the electron does not really go anywhere, the
>"effect" does.
>
>The rate at which this effect moves through the universe is called the
>speed of light. We use imaginary things called "fields" to explain this
>"effect", electric fields and magnetic fields. We can't make one field
>vary without producing the other field, we can't stop one varying field
>without stopping the other. Neat, huh? ALL antennas are ELECTROMAGNETIC.
>
>When the little electrons "accelerate" back and forth in the antenna, the
>electromagnetic fields we use to explain the effects we observe are
>"produced". Actually, there really isn't even a "wave" or anything leaving
>the antenna and going anywhere, just the "effect" rippling through the
>universe that we hang names on.

This is a really nice intuitive explanation, but somehow I find it
lacking (as I also find the explanation in the Antenna Book lacking).
For example, the Antenna Book seems to be saying that an antenna needs
to be a large fraction of a wavelength in size to radiate well, but
then we have magnetic loops like the Isoloop which are tiny fractions
of a wavelength yet radiate well. And I'm not sure we can say fields
are imaginary when EM radiation can have mass (solar sails, Special
Relativity, etc). I have a hard time calling anything with mass imaginary.
And QM says the electron itself is a field (of a different sort).
It all rather defies intuition.

I was reading an article the other day that goes back to an older
concept, that of waves in the aether. The concept of aether was
discarded at the turn of the century (thanks to Michelson-Morley)
but it has arisen again in the context of the vacuum energy. It

seems modern theory (and experiment, Casmir Effect) show that the vacuum isn't empty. Rather it is seething with enormous energy fluctuations (and in fact that the universe itself is just a temporary fluctuation in the vacuum energy via E=MC^2).

EM propagation is then viewed as just a temporary organization of the vacuum fluctuations in a wave-like propagation. In other words, EM radiation temporarily folds, spindles, and mutilates the vacuum through which it travels in a way described (at least to a first approximation) by Maxwell and the Poynting vector.

At a deeper level, the vacuum energy is also spacetime, and is thus warped by gravitational fields, nicely explaining how an EM wave can be bent by gravity, and obversely how an EM "photon" can have mass. C then becomes a fundamental property of the vacuum, and not something unique to EM radiation. It also explains the attenuation of EM radiation by matter. Since matter is just a peculiar type of fluctuation in the vacuum energy, it can be represented geometrically as a sort of "distance", and the characteristic inverse square law can be applied to that "distance" to explain attenuation.

This all boggles the mind, and appears to have some rather incredible implications, especially when considered in the context of certain QM attributes of action at a distance, dead/not dead cats, and the like.

Gary
--
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Lawrenceville, GA 30244 | |

1610. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4i4hl8$eka@crash.microserve.net>
Source record: 106888

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>I still think there must be some reason other than decoration that
>the *inside* of cavities are silver plated.

Maybe this trend started when cavities were first being sold to the
government. They'll gladly pay 100% more for a .01% improvement. ;)

73,
Jack WB3U

1611. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar12.171050.16601@ke4zv.atl.ga.us>
Source record: 106889

In article <4i155k$ncc@nadine.teleport.com> w7el@teleport.com (Roy Lewallen) writes:
>In article <4hvkv5$r7a@hpcvsnz.cv.hp.com>,
> tomb@lsid.hp.com (Tom Bruhns) wrote:
>
>>. . .
>
>>And here are the relationships between permeability and susceptibility
>>(from "Reference Data for Engineers"):
>> u = u0 + J/H
>>
>>where
>> u = permeability
>> u0 = freespace permeability, 1.2576*10^-6 joules/tesla
>> J = magnetic polarization
>> H = magnetic field strength
>> J/H = susceptibility
>
>Thanks for the clarification! The "magnetic susceptibility" referred to in
>my physics book is apparently more correctly "relative magnetic
>susceptibility" since it's dimensionless -- that's what threw me off. With
>the definition you've used, the data in the CRC book make sense.
>
>Roy Lewallen, W7EL

Yeah, thanks, Tom. Looks like that was a blind alley. I still think
there must be some reason other than decoration that the *inside*
of cavities are silver plated. No one is going to see it, so I still
think it's put there for a functional purpose, we just haven't found
it yet.

Gary
--
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Lawrenceville, GA 30244 | |

1612. Re: Need Charger for Lead Acid Gel Cell Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar12.172131.16777@ke4zv.atl.ga.us>
Source record: 106890

In article <4i1e7p$9f0@newsbf02.news.aol.com> dabloodgod@aol.com (DABLOODGOD) writes:
>I bought one of these at a swap meet last month, and now I need a charger
>for it - Its the size of a large car battery - so the small RC plane model
>Ive seen wont really provide enough current. The battery name plate
>describes 2 voltages - 14.2 to 14.4 volts for charging and 13.6-13.8 volts
>for trickle charging (these voltages are approximate) The key thing is
>that the charger is supposed to have 2 modes - 2 voltages and be able to
>switch between them when appropriate. I saw a article in a newsprint
>magazine (World Radio Times ?) last month, Unfortunately, Ive recently
>moved and trashed the magazine, before I realized that I needed the
>article.
>
>If anyone has that magazine, or has an idea for a charger, or knows who
>sold that I kit, I would appreciate having the information

Just go to Pep Boys or Northern Handyman (or even Sears) and get a
good auto battery charger with dual modes. They aren't expensive,
and they'll do what's needed.

The way the charger determines which mode to be in is by monitoring
the current draw. As the battery approaches full charge at 14.2-14.4
volts, the current will drop. When it drops past a set point, the
charger switches taps on the transformer (usually a relay), and
delivers the "float" voltage of 13.8 volts indefinitely.

An easy way to sample the charge current is with a fractional ohm
resistor in series with one of the battery leads. A comparator is
wired across the resistor and when the voltage falls below the
set point, the comparator changes state and drives the relay.
(Alternatively the charger could use a linear voltage regulator
and use the comparator to change its set point, but that costs
more for a high amp charger.)

Gary
--
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Lawrenceville, GA 30244 | |

1613. GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: moore@isd.upmc.edu
Message-ID: <4i49qb$jpt@usenet.srv.cis.pitt.edu>
Source record: 106891
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

GrandFather passed and left 2 garages full of stuff.

GrandMother wants rid of it.

If interested call 1 800 996-2971

Thank You

1614. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: wwm@wa8tzg.mi.org
Message-ID: <826675019.19snx@wa8tzg.mi.org>
Source record: 106892

In article <4i1vl3$o18@kirin.wwa.com> turtle@wwa.com writes:
>
>I am looking for a CK722 Philco transistor. It was in a
>blue case and I need one for nostalgia purposes. It was
>my first transistor radio project as a young ham.
>
> TNX Gary KF9CM
>
>

Gee, I remember the CK722 as being made by Raytheon and in a silver metal can that was of a rounded rectangular shape (kinda like a small IF transformer) with three thin wire leads from a white insulator.

I know there's one around here SOMEPLACE but, of course, I can't find it. Not that I would part with it anyway, but I could at least verify the physical appearance.

73!

--
Bill Meahan WA8TZG wmeahan@wa8tzg.mi.org
Member of: ARRL, IMRA, NorCal QRP (#407), G-QRP (#8468), MI-QRP (#M1458)
Hey, this is my OWN computer! I can say what I want!
cat: a purr bearing mammal

1615. FCC-Out of Control??? Please Read

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: drbs.rick.eutsler@internetmci.com
Message-ID: <4i34ke$m9@news.internetmci.com>
Source record: 106893

FOR IMMEDIATE RELEASE
CONTACT: RICHARD D. EUTSLER, SR.
March 11, 1996
Liberty News Service - 802-485-4170

F.C.C. Refuses to License Low Power Broadcasters

Radio Police Raid Small Broadcaster Instead

Prepared to use force if necessary, federal police arrived at 8 AM on March 7, 1996, to remove a small radio transmitter from the home of A.L. Kobres, a long-time radio enthusiast. The transmitter had been in use for about one year on 96.7 FM and served the community of Lutz, Florida. It was being used to provide information on topics such as home schooling, natural medicine, organic gardening, constitutional law, politics, and POW/MIA issues. Patriotic music was interposed with the programming. The predominately live "talk show" format originated from various points all over America and was downlinked by satellite for broadcast. Several programs originated nearby in the Tampa Bay area. The transmitter power level was less than 50 watts. The range was about 6 miles. All transmissions were identified as those of Lutz Community Radio and a telephone number was given. There were no complaints. Calls from listeners were of a constructive/positive nature. The station operated non-commercially, being funded entirely at Kobres' expense.

The FCC will not license a station to operate with less than 100 watts. The cost to obtain a license can run well over $100,000.

The FCC came to Kobres' home initially on November 3, 1995, in an attempt to compel him to terminate the broadcasts. The FCC justified the demand based on a complaint by a licensed station which supposedly suffered because some of its listeners were switching over to the small Lutz station. Kobres was not warned that the FCC might return and take his equipment by force. On 12/1/95 Kobres wrote to Ralph M. Barlow, the Engineer in Charge of the Tampa FCC office in an effort to inform Barlow that the Communications Act of 1934, which created the FCC, was actually founded upon an economic emergency declared on March 9, 1933, and that the justification for the emergency (economics) cannot be found in the Constitution. Kobres provided Barlow supporting evidence of his assertions. The evidence consisted of Dr. Eugene Schroder's research, which remains undisputed. Both audio tapes and printed material were provided. Kobres also informed Barlow that he was exercising his right to free speech on the airwaves because licensed broadcasters had generally failed to inform the public of many important issues affecting the future of America.

Kobres said that the U.S. Supreme Court has affirmed that the use of the airwaves is the modern day equivalent to the use of the printing press - a fundamental right. He also asked Barlow how the FCC can expect Lutz Community Radio to possess a license when no license for small broadcasters is made available in the first place. Kobres never received a reply to his inquiry from the FCC.

Interestingly, Kobres had previously been on friendly terms with the Tampa FCC office as he had installed most of their antennas and computer equipment.

1616. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: jbaltz@news.cs.columbia.edu
Message-ID: <4i4jrc$era@tune.cs.columbia.edu>
Source record: 106894

In article <1996Mar12.183923.17244@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>of a wavelength yet radiate well. And I'm not sure we can say fields
>are imaginary when EM radiation can have mass (solar sails, Special
>Relativity, etc). I have a hard time calling anything with mass imaginary.

Last time I checked, the photon (the thing that EM fields are made
of) was still massless (well, the most recent experiment that I found
had its mass as less than 10**-27 eV). It is correct to say that the
EM field carries momentum, which is usually thought of as something
(like a ball) travelling with a particular velocity, but field theory
depends actually on the photon being massless. Of course, other fields
can be thought of as having mass (mediated by massive particles like the
Z and W) but the EM field as it stands doesn't carry any mass. However,
the field is measurable, so it's hard now to call the field "imaginary".

>I was reading an article the other day that goes back to an older
>concept, that of waves in the aether. The concept of aether was
>discarded at the turn of the century (thanks to Michelson-Morley)
>but it has arisen again in the context of the vacuum energy. It
>seems modern theory (and experiment, Casmir Effect) show that the
>vacuum isn't empty. Rather it is seething with enormous energy
>fluctuations (and in fact that the universe itself is just a
>temporary fluctuation in the vacuum energy via E=MC^2).

This whole problem with the vacuum is quite an old one and is a subject of
current debate among physicists.

>Gary

//jbaltz
--
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@cs.columbia.edu jbaltz@scisun.sci.ccny.cuny.edu KE3ML

1617. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: Tom Skelton <Tom.Skelton@ColumbiaSC.ATTGIS.COM>
Message-ID: <Do6Dz8.KuG@ncrcae.ColumbiaSC.ATTGIS.COM>
Source record: 106895

>==========W8JI Tom, 3/11/96==========
>
>In article <4hs98c$cc@pigdog.topend.com.au>, trips@gypsy.topend.com.au
>(Lysergic Acid Diethylamide) writes:
>
>>I've always been told that a voltage needs a conductor in order for
>>current to flow. So how does an alternation volage of say 30v
and freq
>>27mhz leave the antenna if it needs a conductor?
>>
>>I though electricity cannot go through open air except for VERR high
>>voltages.
>
>Hi Pigdog,
>
<snip>
>
>On a less serious note, if you take 100-200 micrograms of that
>stuff after
>your signature, you may be able to see these waves rippling through the
>universe like tiny golden fishes (Cream, from Swabalar 1969) !
> ;-)
>
>73, Tom

Actually, wasn't the song called S.W.L.A.B.R???

73, tom WB4iUX

ps: I played guitar in a band called The Universal Joint back
then.

1618. Help, please.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: k5hwh@aol.com
Message-ID: <4i53m3$e7@newsbf02.news.aol.com>
Source record: 106896

Can anyone advise me where in Midland, Texas the Hamfest will be held this weekend? Also, what is (are) the talk-in frequencies? Thank youin advance for the help.

Jim
K5HWH

e-mail: k5hwh@aol.com

1619. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4i384o$av1@newsbf02.news.aol.com>
Source record: 106897

In article <4hmiir$8ak@daryl.scsn.net>, gss@scsn.net (Greg Snellgrove) writes:

>The silver product cost $12.35 and the plating brush that
>connects to the negative side of your battery is $1.35.

For what it is worth, I've used a similar product consisting of a brush "pen" which held 2 AA cells and a ground return lead out the top.The plating material comes from a loop of silver wire within the brush. Dip the brush in an electrolyte solution and "paint" on the silver...

While slow, it does a credible job on flat or simple surfaces (such as 1/2" copper water pipe for 2m cavities). Trying to plate a 3.5" diameter 30t coil of 1/8" tubing after forming the coil was another story. Trying to plate the inside of some homemade waveguide or other irregular / inaccessible shape is probably impossible.

Bill K2EK

1620. AMTOR Spec ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: YourName <YourName@dr.att.com>
Message-ID: <Do6G56.G2u@bigtop.dr.att.com>
Source record: 106898

Can anyone point me to the AMTOR Specification? Who proposed it? What constitutes conformance to the spec? Are there link layer protocols above the simple error correcting character codes? etc.

Gordon Brunson
KC0VC
email: grb@dr.att.com

1621. Re: Stupid Qustion (What a great troll....)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4i5181$lj@cloner3.netcom.com>
Source record: 106899

In <4hs98c$cc@pigdog.topend.com.au> trips@gypsy.topend.com.au (Lysergic
Acid Diethylamide) writes:
>
>I have a stupid question about the priciple of radios.
>
>I've always been told that a voltage needs a conductor in order for
>current to flow. So how does an alternation volage of say 30v and
freq
>27mhz leave the antenna if it needs a conductor?
>
>I though electricity cannot go through open air except for VERR high
>voltages.
>

1622. Re: Silver Plating

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4i3u9u$h0o@newsbf02.news.aol.com>
Source record: 106900

In article <4i1bkc$rpr@msunews.cl.msu.edu>, flegler@pilot.msu.edu (Stanley L. Flegler) writes:

>
>Several postings ago it was stated that CuO has a magnetic susceptability

>of +267. Does this mean that the bare copper HF antenna that I put up
>last fall will start to become very inefficient as oxides (or chlorides)
>start to form? 73 Stan K8RPA, flegler@pilot.msu.edu
>
>

No Stan, it doesn't.

You could never measure the change in efficiency, and the numbers were wrong anyway.

73 Tom

1623. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4i37j1$ab3@newsbf02.news.aol.com>
Source record: 106901

In article <4hs98c$cc@pigdog.topend.com.au>, trips@gypsy.topend.com.au (Lysergic Acid Diethylamide) writes:

>I've always been told that a voltage needs a conductor in order for
>current to flow. So how does an alternation volage of say 30v and freq
>27mhz leave the antenna if it needs a conductor?
>
>I though electricity cannot go through open air except for VERR high
>voltages.

Hi Pigdog,

This is one of the big effects of the universe. Whenever an electron is accelerated or moved, all the other electrons in the universe try to re-adjust to the change. So the electron does not really go anywhere, the "effect" does.

The rate at which this effect moves through the universe is called the speed of light. We use imaginary things called "fields" to explain this "effect", electric fields and magnetic fields. We can't make one field vary without producing the other field, we can't stop one varying field without stopping the other. Neat, huh? ALL antennas are ELECTROMAGNETIC.

When the little electrons "accelerate" back and forth in the antenna, the electromagnetic fields we use to explain the effects we observe are "produced". Actually, there really isn't even a "wave" or anything leaving the antenna and going anywhere, just the "effect" rippling through the universe that we hang names on.

On a less serious note, if you take 100-200 micrograms of that stuff after your signature, you may be able to see these waves rippling through the universe like tiny golden fishes (Cream, from Swabalar 1969) !
;-)

73, Tom

1624. VHF Converter Alignment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4i4v2q$rqo@newsbf02.news.aol.com>
Source record: 106902

I am trying to resurrect an old Janel 144CF 2m converter I picked up at a flea some time ago. I suspect its alignment was seriously screwed up by prior owner's diddling (images, instability, etc). Tuning consists of 3 tuned circuits before and after the mixer stage, with a single tuned circuit at RF amp input. The LO seems fine.

Lacking a swept signal generator, NF meter etc, I am wondering if it is possible to simply stagger tune the circuits - say at 144, 144.5 and 145MHz - using an HT with 30db pad (about 1mW output) for a signal source and tuning for a peak reading voltmeter reading on the IF receiver's audio output?

Any suggestions will be most welcome...

Bill K2EK

1625. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar12.173107.16869@ke4zv.atl.ga.us>
Source record: 106903

In article <4i1i6t$p8d@sun001.spd.dsccc.com> ccashion@spd.dsccc.com (Charles Cashion) writes:
>Robert M. Miller (rmmiller@ix.netcom.com) wrote:
>
> rm> Need paint for Heathkit fine wrinkle green as used on the HW
> rm> and SB series radios.
> rm> Bob, KE6F
>
>When I was in High School, the electric shop teacher was very fond
>of wrinkle finishes. All we used was black enamel. But the way to
>make any paint wrinkle is to bake it in a warm oven before it dries.
>As it dries. At the time, I was curious what paint we were using,
>and I was mildly surprised to find that it was ordinary enamel.
>(I cannot tell you how hot to run the oven, but I think 150 to 170
>should probably do it. I remember that the oven was not hot enuf to
>burn your skin if you touched it.)
>Charles

I routinely use oven drying for enamel paints, as do the auto
manufacturers for their finishes. It won't give you a wrinkle
effect unless the drying agents in the paint allow it to wrinkle.
I looked this up after the first round. Wrinkle finish paints
use *two* carefully chosen solvents with different drying times
in order to achieve the wrinkle effect. One of the solvents needs
to be very volatile, the other not.

Ordinary enamel paints may use more than one solvent too, but
normally their drying times are similar, hence no wrinkles.
It may be that the particular paint you used had solvents that
volatilized sufficiently differently when heated to achieve a
wrinkle finish, but that's not the normal way baked enamels
behave. I've found that when using Krylon I get a much
smoother finish when I bake it than if I let it dry at
room temperature.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
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Lawrenceville, GA 30244 | |

1626. 144.955 MHz AM receiver schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: rgunn@TECLink.Net
Message-ID: <4i4gtp$78i@lou.teclink.net>
Source record: 106904

I need to build an AM receiver that can tune 144.955 MHz. Anybody know where a schematic for such a beast can be found?

Thanks in advance for any help at all.

--

Ron Gunn
email: rgunn@teclink.net
npage: http://home.teclink.net/~rgunn/

1627. lightning detector, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-12 00:00:00 UTC
From: Tom Kreyche <tkreyche@well.com>
Message-ID: <4i47l1$21r@nkosi.well.com>
Source record: 106905

I just read a review of the SkyScan lightning detector. It's a hand-held 4x6 inch box which has led's which indicate lightning distances in ranges of 0-3 miles, 3-8 miles, 8-20 miles, 20-40 miles and has an indicator for severe storms. Price is $200, Automated Weather Source, 301-258-8390

The reviewer checked it out in weather service office that had doppler radar and an expensive lightning detector and found that it worked well.

I'd like to build something similar and perhaps build a dual arrangement to get crude triangulation. Anyone have any references for this type of instrument?

Obviously with a relatively low frequency radio, e.g. am broadcast band you can easily pick up lightning induced noise, but how do you translate it into distance? The audio output could easily be filtered and digitized, does amplitude translate directly into distance? What frequencies are best for lightning detection?

Thanks, Tom Kreyche KG6YJ

1628. Re: Silver Plating An Alternative?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <96073.110930IFF161@DJUKFA11.BITNET>
Source record: 106729

When I posted under the above title I was amazed at the number of email responses, well beyond the trigger level at which I promised to post a recipe. (I have come to expect no answers as that is the typical result, even when I feel certain somebody out there has the information I need!)
As I wrote before, the method is one long used by clock makers to put a silver layer on a copper or brass dial to improve the appearance. On a matt surface the dial takes on a nice white color until the power plant sulphur turns it black.
Except for the silver compound, the other ingredients can be bought in a food store. You may have trouble getting cream of tartar but I get it in England at Safeway. Try a drugstore if you fail at the food store. (my wife says it is used in some Asian cooking.)
You can buy silver cloride or make it from silver nitrate. Adding NaCl to a solution of silver nitrate will cause the cloride to form. Collect it with a filter paper. (The collection ought to be quite efficient as silver cloride has a very low solubility in water.) Wash out the salt and store the cloride in a dark place. Or prepare the cloride each time so it is fresh.
Clean your copper very well, and while it is still wet rub it with a cloth to apply a thin layer of paste of fine salt in water. Then run on the silver cloride paste (the old recipe recommended a piece the size of a marble for 10 square inches.) The copper should turn grayish and ugly with streaks and all. Then put on the cream of tartar, applied with the same cloth (Muslin, they say) where the cream of tartar is in the form of a paste in water. Rub all over and the silver should start to whiten. Keep your fingers off the surface during all the processing. Rubber gloves are good protection against contamination. Wash off the parts in the hottest water your hands will tolerate. Dry.
You ought to be able to buy solutions to do this all with less rubbing and similar bother. In either case, "homebrew, old-fashioned" or with modern solutions, you are removing a bit of copper and replacing it with some silver. I do not know how thick the layer is and the depth is limited: the removal does not proceed to arbitrary distance into the metal as the new silver protects the underlying metal. Conversely, the skin depth is not great at high frequency and the silver might be thick enough (and more than a couple skin depths is wasted silver. It would be valuable for somebody to test and post the results as to whether he observes the predicted Q-improvement when plating with some electroless method.)
Electroplating is the way to go around the limit on thickness. It is not a replacement process and thick layers can be added to the surface. But then we seem to be back to cyanide solutions and living with the slight loss of Q is better than loosing a life.
I just received word our system is going down in a few minutes so I must sign off. I plan to say a bit on copper plating (and on other metals in pass-ing) without cyanide but this message will be lost if I do not sign off. 'til

then.....
Bob

1629. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <Do84n7.HI@ncifcrf.gov>
Source record: 106730

In article <1996Mar13.173606.22155@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <4i5amm$duo@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:
>>

>I don't recall a Heath with a hammertone finish (but that doesn't mean
>they never used it). That was the finish on old Bud boxes. It vaguely
>resembles a sheet of metal that has been lightly hammered with a ball
>peen hammer, IE a pattern of varying grey tones, thus the name. The Heaths
>I recall all had a textured finish, like that delivered by a roller or a
>"spatter" gun. BTW, I seem to recall someone here recently recomending
>using a roller to achieve a nice textured cabinet finish.
>
>And I don't know how to achieve a true hammertone finish either.

A friend of the family's (when I was a kid) worked for a paint
company and he once brought me home a 1pt can of hammertone
paint, which I promptly used on everything metal I had.

So hammertone isn't anything you do, you just paint it on.
Beyond that I have no idea.

Joe Mack NA3T
mack@ncifcrf.gov

>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

1630. Re: 144.955 MHz AM receiver schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Cliff Soderback <Cliff-s@cris.com>
Message-ID: <3147B4B3.680E@cris.com>
Source record: 106731

Ron Gunn wrote:
>
> I need to build an AM receiver that can tune 144.955 MHz. Anybody know
> where a schematic for such a beast can be found?
>
> Thanks in advance for any help at all.
>
> --
> -------------------------------------
> Ron Gunn
> email: rgunn@teclink.net
> npage: http://home.teclink.net/~rgunn/
> -------------------------------------

144.955 is in the middle of the 2 meter Ham band and only
FM is used on this freq. If you have some other use for a
receiver I would suggest any used scanner. They are cheap
and will cover a large number of frequencies.

Cliff, W7VVA

1631. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4i5ngm$9bi@newsbf02.news.aol.com>
Source record: 106732

In article <4i5amp$duo@hg.oro.net>, rst-engr@oro.net (Jim Weir) writes:

>>I am looking for a CK722 Philco transistor. It was in a
>>blue case and I need one for nostalgia purposes.
>>
snip...
>It wasn't Philco, it was Raytheon.

Gary - I checked my nostalgia pile to see if I had more than one. Sorry. Though the one I have is in a rectangular natural aluminum case (and labeled Raytheon) - probably circa 1961.

Bill K2EK

1632. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: rex_allers@3mail.3com.com
Message-ID: <4114@bridge2.NSD.3Com.COM>
Source record: 106733

In article <4hvkv5$r7a@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com says...

>But I really think that Tom (W8JI) and Drew and others that have posted
>here have the right idea on this: the silver plating really doesn't help
>that much. You are much better off to put your energy into making the
>copper suface smooth and clean, and then protecting it with a thin coat of
>clear acrylic lacquer. Or does someone have a better type of lacquer
>that's commonly available? (Polystyrene lacquer? A cheap, safe home
>process for putting on thin Teflon coatings?)
>--

One comment on a coating to protect from oxidation...

I've only tried this on brass for cosmetic reasons, but I've had success using clear acrylic floor wax. Its cheap, may already be in your house, and has kept a brass key looking good for several years. Just wet the surface with a light coat from a paper towel or a Q-tip.

I've been thinking about trying it in an RF application but haven't done it yet.

1633. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: jbaltz@news.cs.columbia.edu
Message-ID: <4i82gp$44a@play.cs.columbia.edu>
Source record: 106734

In article <4i7d6q$m7q@tempo.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>Well, it is almost true. Almost because the true formula for energy
>is E^2 = M^2*C^4 + P^2*C^2, simplifying to E = M*C^2 at rest.
>Impulsion is P, quantity of motion.

Momentum in English.

>The vector P and energy E can be in special relativity merged into
>a quadrivector impulsion-energy (maybe the English word is impulse !)

4-vector P_mu = (E, p_x, p_y, p_z) in the signature +/-2 metric.

>Vincent

//jbaltz
--
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@cs.columbia.edu jbaltz@scisun.sci.ccny.cuny.edu KE3ML

1634. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Andy Walton <andrew.c.walton@dsto.defence.gov.au>
Message-ID: <4i5dpp$4d3@foxhound.dsto.gov.au>
Source record: 106735

Try Protel Easytrax, available from Simtel.
Regards, Andy VK3CAH

1635. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Andy Walton <andrew.c.walton@dsto.defence.gov.au>
Message-ID: <4i5dg9$4d3@foxhound.dsto.gov.au>
Source record: 106736

Try Protel Easytrax, available from Simtel.
Regards, Andy VK3CAH

1636. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Andy Walton <andrew.c.walton@dsto.defence.gov.au>
Message-ID: <4i5dhq$4d3@foxhound.dsto.gov.au>
Source record: 106737

Try Protel Easytrax, available from Simtel.
Regards, Andy VK3CAH

1637. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Andy Walton <andrew.c.walton@dsto.defence.gov.au>
Message-ID: <4i5dj5$4d3@foxhound.dsto.gov.au>
Source record: 106738

Try Protel Easytrax, available from Simtel.
Regards, Andy VK3CAH

1638. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: wx8l@vtc.tacom.army.mil
Message-ID: <4i5btf$16a@vtc.tacom.army.mil>
Source record: 106739
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

In article <4i49qb$jpt@usenet.srv.cis.pitt.edu>,
moore@isd.upmc.edu (James Moore) wrote:
>
> GrandFather passed and left 2 garages full of stuff.
>
> GrandMother wants rid of it.
>
> If interested call 1 800 996-2971
>
> Thank You
>

Does this reek of spam or what!

Sean

1639. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4i5amm$duo@hg.oro.net>
Source record: 106740

Lee Blaske <lblaske@pclink.com> shared the following priceless pearls
of wisdom:

>It was expained to me that the Heath light green finish as found on the SB series is
>not a crackle finish. In fact, that finish is accomplished by some sort of
>spattering process using a special paint spraying nozzle. Ron Eisenbrey, who
>refinishes vintage ham gear, just finished a batch of Heath equipment. It'll
>probably be some time before he gets around to Heath again.

If I'm not mistaken (and I frequently am) we used to get a good
crackle finish by first applying enamel, waiting until it set up
tacky, then oversprayed with lacquer. Somehow the solvents in the two
varieties hated each other and got to fighting amidst the hills and
crevices of the finish.

Or something like that. Oh, the poster who said the Heath finish
wasn't crackle is correct. I believe the correct term for the Heath
finish is hammertone, and I DON'T know how to do that one easily.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. I OWN the cotton-pickin' company.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic

1640. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4i6tsl$1i9@news.calweb.com>
Source record: 106741

wwm@wa8tzg.mi.org (Bill Meahan) wrote:
>In article <4i1vl3$o18@kirin.wwa.com> turtle@wwa.com writes:
>>
>>I am looking for a CK722 Philco transistor. It was in a
>>blue case and I need one for nostalgia purposes. It was
>>my first transistor radio project as a young ham.
>>
>> TNX Gary KF9CM
>>
>>
>
>Gee, I remember the CK722 as being made by Raytheon and in a silver
>metal can that was of a rounded rectangular shape (kinda like a small
>IF transformer) with three thin wire leads from a white insulator.
>

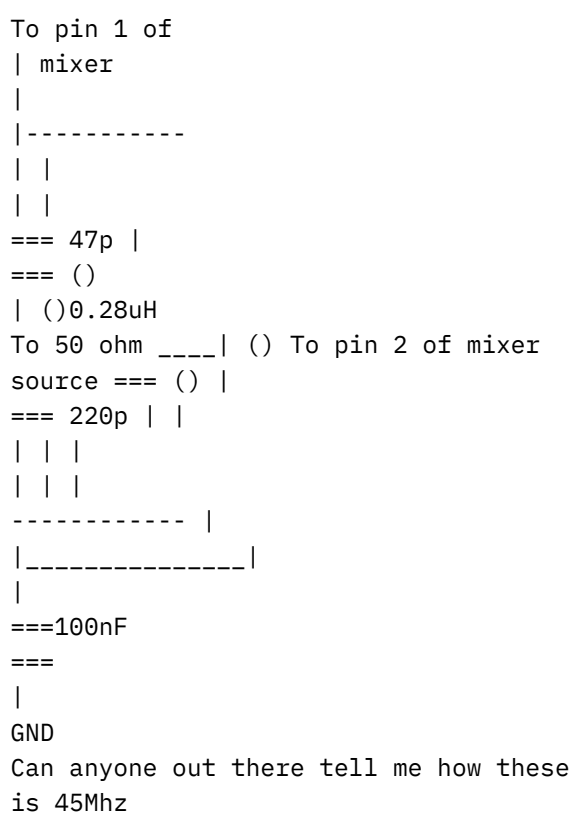
Mine is made by Rayteon and is black plastic with a clear section near the leads. It cost about US $7.00 when it was new. I couldn't afford one but a frend could and he ended up giving it to me.

Bill K7NOM

1641. Impedance matching

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: workshop@pcm.co.za
Message-ID: <4i821n$3ts_002@pcm.co.za>
Source record: 106742

Hi there
This is to all those who know anything about impedance matching!
I have a circuit using a ne602 ic.The input impedance is is quoted
as bieng 1.5k.I have a Phillips application note (AN1993)
that uses this ic.The input to the mixer of the ic is from a 50 ohm source.
The 50 ohm source has been matched to the ic by the following circuit.

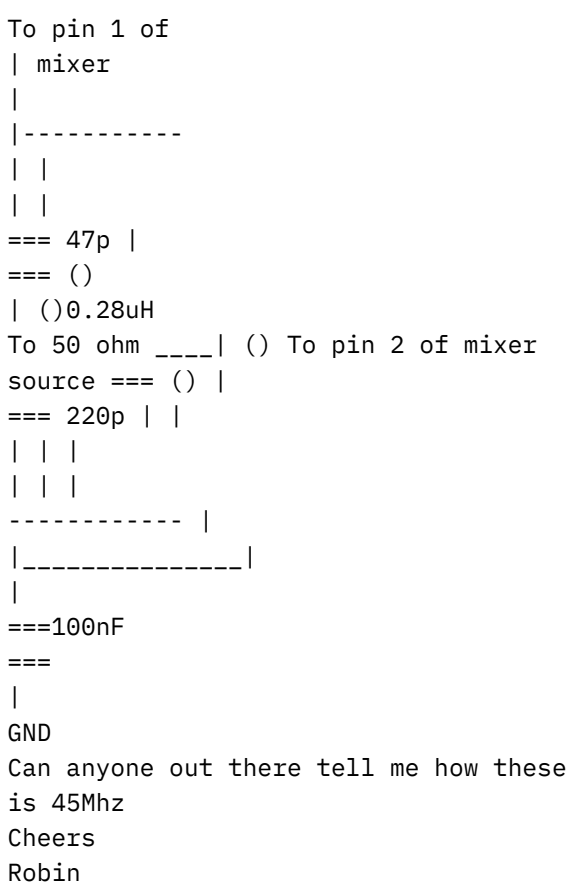


Can anyone out there tell me how these values are calculated.The frequency of interest
is 45Mhz

1642. Impedance matching

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: workshop@pcm.co.za
Message-ID: <4i826r$3ts_005@pcm.co.za>
Source record: 106743

Hi there
This is to all those who know anything about impedance matching!
I have a circuit using a ne602 ic.The input impedance is is quoted
as bieng 1.5k.I have a Phillips application note (AN1993)
that uses this ic.The input to the mixer of the ic is from a 50 ohm source.
The 50 ohm source has been matched to the ic by the following circuit.



Can anyone out there tell me how these values are calculated.The frequency of interest
is 45Mhz
Cheers
Robin

1643. want info on how to build a HF/6m Duplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Peter Shintani <shintani@tv.sony.co.jp>
Message-ID: <4i7n69$6ji@oskgw.osk.sony.co.jp>
Source record: 106744

Hi
I bought a IC-706 and would like to build a HF/6m duplexer so
I don't have to manually switch antennas. (The IC-706 outputs HF and 6m via
one connector and I have two antennas)
Can someone provide a schematic on how to build a duplexer for Hf and 6m and
or guide me to some source that describes how to design the duplexer.
(Comet makes a commerically available duplexer but it seems a bit expensive)
By the way, I tried to build a low pass and a high pass filter to split the signal but I seemed
to get some interaction between the filters, so I don't thing designing
separate sections is the correct method to design duplexer. Each filter individually
had the correct response but when their inputs were paralleled it didn't work.
I had funny dips in the response.

VE7 CQA
Peter

1644. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: turtle@wwa.com
Message-ID: <4i69sa$6pv@kirin.wwa.com>
Source record: 106906

> rst-engr@oro.net (Jim Weir) writes:
> (Gary) turtle@wwa.com shared the following priceless pearls of wisdom:
>
> >I am looking for a CK722 Philco transistor. It was in a
> >blue case and I need one for nostalgia purposes. It was
> >my first transistor radio project as a young ham.
>
> It wasn't Philco, it was Raytheon. I used one in my first project in
> '58 or '59 and I've got ONE left in the nostalgia case. Sorry. BTW,
> I take it out and measure it for beta and leakage every time I get
> spoiled with the current production stuff.
>
> Jim
>
>
> Jim Weir VP Engineering | You bet your sweet patootie I speak for the
> RST Engineering | company. I OWN the cotton-pickin' company.
> Grass Valley CA 95945 |
> http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
> rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic
>
>
>>>>
You guys are right it is Raytheon, but you have to remember I am the one looking for the transistor and it has been 40 years since I've seen the darn thing.....it was blue, I got that right.

TNX Gary KF9CM

1645. FS: HP608 sig. gen. manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Vlad <dvorkin@pcs.mot.com>
Message-ID: <4i6lip$n45@newdelph.cig.mot.com>
Source record: 106907

For sale HP608 signal generator original user/service manual.
$14 including mailing.
Vlad

1646. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: pacrimgolf@saba.kuentos.guam.net
Message-ID: <4i6thl$5c7@lehi.kuentos.guam.net>
Source record: 106908
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

James Moore (moore@isd.upmc.edu) wrote:

: GrandFather passed and left 2 garages full of stuff.

: GrandMother wants rid of it.

: If interested call 1 800 996-2971

: Thank You

James,
Sorry to hear about your Grand Dad.
Regards,
Jim KH2D

1647. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: cjrobins@falcon.eag.unisysgsg.com
Message-ID: <4i6l9j$h3s@falcon.eag.unisysgsg.com>
Source record: 106909
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

James Moore (moore@isd.upmc.edu) wrote:

: GrandFather passed and left 2 garages full of stuff.

: GrandMother wants rid of it.

: If interested call 1 800 996-2971

: Thank You

Could you at least tell us what state its in?

1648. Re: ? High Power Zener Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <3146E456.5A25@arrl.org>
Source record: 106910

Koellner, Guenter wrote:
>
> Hello,
>
> sometimes high power Zener diodes are used to stabilize grid voltages for
> tubes. For example screen grid on tetrodes with high voltage but low
> current, otherwise control grid/cathode bias for triodes. 10W and 25W zeners
> are mostly used for this purpose. But there is a problem: standard zener
> diodes are named ZPD+voltage indicator, high power devices mostly 1Nxxxx.
>
> Who has or where can I find a list identifing these devices?
> The ARRL Handbook has tables which include the 10 and 50 watt
devices. No 25 watt devices are listed--are 25 watt zeners
popular devices in Europe?

Zack KH6CP/1

1649. Automation System Clock for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: tarkus95@aol.com
Message-ID: <4i86mj$4mk@newsbf02.news.aol.com>
Source record: 106911

I have an automation system clock that until recently resided at WGHB-AM in Farmville NC. It is a Schafer model with nixie-type display tubes. The internal workings of the clock are a fascinating mixture of electronic and mechanical mechanisms. It would be ideal for a ham or hobbyist who needs a clock for pulse creating or preprogrammed events. $150 plus shipping gets it. E-mail direct.

Tarkus95@aol.com

1650. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar13.173606.22155@ke4zv.atl.ga.us>
Source record: 106912

In article <4i5amm$duo@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:
>
>Or something like that. Oh, the poster who said the Heath finish
>wasn't crackle is correct. I believe the correct term for the Heath
>finish is hammertone, and I DON'T know how to do that one easily.

I don't recall a Heath with a hammertone finish (but that doesn't mean they never used it). That was the finish on old Bud boxes. It vaguely resembles a sheet of metal that has been lightly hammered with a ball peen hammer, IE a pattern of varying grey tones, thus the name. The Heaths I recall all had a textured finish, like that delivered by a roller or a "spatter" gun. BTW, I seem to recall someone here recently recomending using a roller to achieve a nice textured cabinet finish.

And I don't know how to achieve a true hammertone finish either.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1651. WG: Mail failure

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <31470BB2@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 106913

> I'm looking for serious tested designs using either one QBL5/3500
> tetrode or a 3CX3000A7 triode for the 144MHz band.
> For Moonbounce operation, I'm already using a 3CX1500A7 but need more
> 'fruitjuce' !.
>
> Regards
> Jean-marc

I would prefer a W6PO design, it is the most flexible design I know for different sizes of tubes. There are also some statements on "symmetric and asymetric loads" caused from the anode resonator made by him that I agree to. It is really easy to be built. I am currently building one using a GS35B

tube.

By the way, I am still searching for a suiting design for a 1.5kW+ tube for 70cm. Until now I have the YL1040 design by OZ9ZI adn a 8938 design from the

"Radio Handbook". Do you know any other, maybe one using not the standard flat plate line but a cavety design as they are more known for the 23cm amps?

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
dl4mea@amsat.org (Internet)
http://www.scn.de/~koellner (WWW)

1652. Canadian regs on FM transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: mcmahon@cad.uccb.ns.ca
Message-ID: <4i71qn$65q@News.Dal.Ca>
Source record: 106914

I just sent for a fm transmitter (Ramsey FM-10A, $35!) which I want to use to distribute stereo throughout the house and yard. With the proper antenna I was told it could potentially broadcast up to a mile - the kids are gona love this! So, I started trolling the internet to see just what the candian regulations are on fm transmissions but so far I came up empty. Can anyone here point me in the right direction? And, by the way, is this the right group to ask? I'll check back, but e-mail is better since I'm not a regular. Thanks for any help.

1653. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4i74ma$mda@crash.microserve.net>
Source record: 106915

rst-engr@oro.net (Jim Weir) wrote:

>Oh, the poster who said the Heath finish wasn't crackle is correct.
>I believe the correct term for the Heath finish is hammertone, and I
>DON'T know how to do that one easily.

Early SB-series Heath gear is definitely not hammertone - it is indeed
a wrinkle finish. I can't comment on how Heath applied it, however.

Incidentally, does anyone else remember Heath selling touch-up paint
at one time for that equipment? I seem to remember being told that it
was available in a regular spray can. Yes? No?

73,
Jack WB3U

1654. Re: AMTOR Spec ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: forrerj@ucs.orst.edu
Message-ID: <4i6vgr$4v9@news.orst.edu>
Source record: 106916

In article <Do6G56.G2u@bigtop.dr.att.com>, YourName@dr.att.com says...
>
>Can anyone point me to the AMTOR Specification? Who proposed it? What
>constitutes conformance to the spec? Are there link layer protocols
>above the simple error correcting character codes? etc.
>
>Gordon Brunson
>KC0VC
>email: grb@dr.att.com
>
Gordon,

AMTOR is a close relative of SITOR which conforms to CCIR recommendation 476-2 (and later revisions). The CCIR recommendations are available from ITU in Geneva. The acronym "AMTOR" was coined by Peter Martinez, G3PLX, who we can say is the father of this amateur radio mode.

Yes, there are several error correcting protocols in use. You may want to look into and retrieve our discussions of this topic on the TAPR HFSIG (HF special interest group - web page is at www.TAPR.org). If this topic excites you, also consider coming to the ARRL DCC that is planned in September this year in Seattle. You will have the opportunity to hear about these developments and contribute your own ideas.

Hope this is of interest. Feel free to e-mail me directly if you need further pointers.

73's

Johan Forrer, KC7WW

1655. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar13.180414.22389@ke4zv.atl.ga.us>
Source record: 106917

In article <4i65dd$2qf@tempo.univ-lyon1.fr> elendir@enst.fr (Elendir) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: of a wavelength yet radiate well. And I'm not sure we can say fields
>: are imaginary when EM radiation can have mass (solar sails, Special
>: Relativity, etc). I have a hard time calling anything with mass imaginary.
[snip]
>There is a confusion here.
>Light and photons do not have any mass.
[snip]
>Solar sails is just radiation pressure ; although photons are weightless
>they do carry energy and impulsion, that they are able to give to any body
>they encounter.
[snip]
>Giving a mass to the photon is - precisely -
>trying to explain a pure relativist phenomenon by newtonian theory.
>
>(Impulse-Energy tensor) = K*(Metric tensor)

The explanation I learned (admittedly many years ago) is that a photon
has zero rest mass, but that it carries a mass equivalent in its
energy, as related by the Planck Law, E=hv, and the mass energy
equivalence, E=MC^2. That may be intuitively Newtonian, but it gives
the right answer for solar sail calculations. I'm not at all sure
what you mean by "impulsion", but you seem to be implying that it
is a tensor field quantity of some sort that warps spacetime conversely
from the way it is warped by gravity. I freely admit ignorance of the
finer points of General Relativity.

It also, I think, is a side issue to the resurrection of the concept
of the vacuum energy as being the aether.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1656. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4i7uue$11e@newsbf02.news.aol.com>
Source record: 106918

In article <4i74ma$mda@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>Early SB-series Heath gear is definitely not hammertone - it is indeed
>a wrinkle finish. I can't comment on how Heath applied it, however.
>
>Incidentally, does anyone else remember Heath selling touch-up paint
>at one time for that equipment? I seem to remember being told that it
>was available in a regular spray can. Yes? No?
>
>

Jack et al... Heath used several color schemes over the years. My first transmitter - a DX-20 - had a medium grey wrinkle cabinet with a semi-gloss light grey fron panel. I am currently restoring a IM-18 VTVM which has a light brown or tan semi gloss front panel and darker brown "splatter" cabinet. It looks a little like semi-glass latex applied with a roller. I am also restoring a SB-610 monitor scope which is the more recent light and dark green and is definately wrinkle. A similar color scheme was used in the early 60s (Mohawk, Marauder, Warrior, etc) but they were gloss enamel for both panels and cabinets.

I too remember touch up paint being available in a spray can.

Bill K2EK

1657. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4i7vaj$161@newsbf02.news.aol.com>
Source record: 106919

>>I am looking for a CK722 Philco transistor

Gary - must have blown away your original note & E-mail address, so cant respond directly. I took another look through my junk box and found a couple CK-721s. Same size & pedigree as the 722. If memory serves (dont count on it!) the 721 was the NPN version of the 722 - or was it the other way around... Anyway, I'd be willing to give one up if you are interested.

de Bill K2EK

1658. ground a 5/8 wave on a trunk lip mount?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: charlie@netdepot.com
Message-ID: <charlie-1303962112150001@thebe01.netdepot.com>
Source record: 106920
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I've got a trunk lip mount and I want to use a 5/8 wave antenna with it. If I attach a piece of wire running from the ground of the antenna to a suitable ground in the trunk, will this have the same affect as putting the antenna on the roof of my car? Thanks.

Charlie Fortner
KF4GJQ

1659. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: jmac@gti.net
Message-ID: <4i7bhi$lvj@gti.gti.net>
Source record: 106921
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

James Moore (moore@isd.upmc.edu) wrote:

: GrandFather passed and left 2 garages full of stuff.

: GrandMother wants rid of it.

: If interested call 1 800 996-2971

: Thank You

Well...what stuff?

--Scott--

1660. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <Do84FG.CF@ncifcrf.gov>
Source record: 106922

In article <1996Mar12.183923.17244@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>In article <4i37j1$ab3@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>>In article <4hs98c$cc@pigdog.topend.com.au>, trips@gypsy.topend.com.au
>>(Lysergic Acid Diethylamide) writes:
>>

>This is a really nice intuitive explanation, but somehow I find it
>lacking (as I also find the explanation in the Antenna Book lacking).
>For example, the Antenna Book seems to be saying that an antenna needs
>to be a large fraction of a wavelength in size to radiate well, but
>then we have magnetic loops like the Isoloop which are tiny fractions
>of a wavelength yet radiate well. And I'm not sure we can say fields
>are imaginary when EM radiation can have mass (solar sails, Special
>Relativity, etc). ^^^^

I think solar sails work because light has _momentum_

Joe Mack mack@ncifcrf.gov

>Gary
>--

1661. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4i7chd$lir@dfw-ixnews3.ix.netcom.com>
Source record: 106923

For wrinkle we used to use the enamel / laquorer method, I'v never tried to emulate the Heath, for hammertone, our local ACE hardware store carries it. I haven't tried it, but probably should on an old pair of Morrows I am restoring.

Glenn Sparks

In <1996Mar13.173606.22155@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>
>In article <4i5amm$duo@hg.oro.net> rst-engr@oro.net (Jim Weir) writes:
>>
>>Or something like that. Oh, the poster who said the Heath finish
>>wasn't crackle is correct. I believe the correct term for the Heath
>>finish is hammertone, and I DON'T know how to do that one easily.
>
>I don't recall a Heath with a hammertone finish (but that doesn't mean
>they never used it). That was the finish on old Bud boxes. It vaguely
>resembles a sheet of metal that has been lightly hammered with a ball
>peen hammer, IE a pattern of varying grey tones, thus the name. The Heaths
>I recall all had a textured finish, like that delivered by a roller or a
>"spatter" gun. BTW, I seem to recall someone here recently recomending

>using a roller to achieve a nice textured cabinet finish.
>
>And I don't know how to achieve a true hammertone finish either.
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

1662. USA QSL BUREAU

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <2a6.9021.546@acenet.com>
Source record: 106924

Newsgroups: rec.radio.amateur.homebrew
From: brian.carling@acenet.com
"mail sometimes bounces here, please resend if needed!"

Entered 4:54 p.m. Sunday

A GREAT idea whose time has come! I was jjust thinking about doing
something like this the other morning while I was taking a shower,
he he!

73 - AF4K, Bry
(An SASEnvelope is on the way!)

Please reply to me at my NEW e-mail address:
bry2@usa.pipeline.com

10>NOW SEND "QSL VIA USBURO" ON THE AIR!
10>USA QSL BUREAU FOR ALL YOUR DOMESTIC QSL CARDS, ALL 10
10>DISTRICTS, TERRITORIES AND TRUSTEESHIPS OF THE U.S.A.

* SLMR 2.1a * Infantry: A sapling.

1663. Re: [Q] PC switching PS mods ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <4i66i8$qh0@vista.hevanet.com>
Source record: 106925

>>Has anyone made 5 Volt PC switching power supply modification to 13.8 Volt ?
>>thanks info, Danilo +

You probably can get the +12V output to go to 13.8 That will limit you to 7 amps or so. You will have to change the voltage sense resistor from the 5V out to the 12V output. Otherwise, there won't be enough energy in the core to keep the 12V up under load. Yes, also disconnect the rectifier from 5V so you don't blow up the 5V caps.

Downside is that you might find a lot of receiver birdies from the switcher. They're not all that well filtered.
miker

1664. Boat Anchors`

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: tarkus95@aol.com
Message-ID: <4i86j6$4l6@newsbf02.news.aol.com>
Source record: 106926

Could somebody please direct me to the newsgroup where broadcast engineers trade horror stories about their stuff blowing up? I seem to recall it was a sub-thread of another newsgroup called alt.boatanchors or something like that. Any information would be greatly appreciated. You can e-mail me direct if you like.

Tarkus95@aol.com

1665. HELP!! NEED service manual for TAC TEC transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4i5q21$6tr@cloner2.ix.netcom.com>
Source record: 106927
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

I need a service manual for a TacTec (RCA) #MJAW2-EC21G.

Thanks!

John
KE6TGN

1666. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-13 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4i7d6q$m7q@tempo.univ-lyon1.fr>
Source record: 106928

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: The explanation I learned (admittedly many years ago) is that a photon
: has zero rest mass, but that it carries a mass equivalent in its
: energy, as related by the Planck Law, E=hv, and the mass energy
: equivalence, E=MC^2. That may be intuitively Newtonian, but it gives
: the right answer for solar sail calculations. I'm not at all sure
: what you mean by "impulsion", but you seem to be implying that it
: is a tensor field quantity of some sort that warps spacetime conversely
: from the way it is warped by gravity. I freely admit ignorance of the
: finer points of General Relativity.

Well, it is almost true. Almost because the true formula for energy
is E^2 = M^2*C^4 + P^2*C^2, simplifying to E = M*C^2 at rest.
Impulsion is P, quantity of motion.
The vector P and energy E can be in special relativity merged into
a quadrivector impulsion-energy (maybe the English word is impulse !)
that get generalized in the general relativity into a tensor field.
You mentioned the equivalence mass <> energy, thereby the metric tensor
is bound to energy, and therefore mass, by the Einstein equation.

Vincent

--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1667. Re: ground a 5/8 wave on a trunk lip mount?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: Cliff Soderback <Cliff-s@cris.com>
Message-ID: <3148D95D.389F@cris.com>
Source record: 106745
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Charlie Fortner wrote:
>
> I've got a trunk lip mount and I want to use a 5/8 wave antenna with it.
> If I attach a piece of wire running from the ground of the antenna to a
> suitable ground in the trunk, will this have the same affect as putting
> the antenna on the roof of my car? Thanks.
>
> Charlie Fortner
> KF4GJQ

Charlie:
The wire wouldn't do anything because the 5/8 ant in grounded
in the mount. If you have a fiberglass car then only a 1/2 wave would
work, because you have no ground. Note: a 1/4 wave on top of the
car will work better than any antenna mounted on the trunk.

Cliff, W7VVA

1668. Re: WTB: want to build .2watt drive amp 2mtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4i7r4e$1u2@solaris.cc.vt.edu>
Source record: 106746

In article <4i5qet$b9c@abyss.West.Sun.COM>, myers@West.Sun.COM (Dana Myers) says:
>
>In article <4i0fnk$dj8@hera.ia.net>,
>Jack Kovar KE0AX <kovar@zeus.ia.net> wrote:
>> I would like to build a amp for 2mtr fm that would produce
>> 10- 30 watts output with 200mw input.
>> Anyone ever seen QST ect design such a critter?
>> Thanks,
>> Jack kovar
>> ke0ax@ia.net
>
>I actually built such a thing myself - I used a Toshiba SAV17 (I think)
>hybrid power amplifier for 2m FM, purchased from RF Parts in
>San Marcos, CA (619) 744-0700. Last I looked, the module cost
>something like $70, but it will produce over 50W of output for around
>200mW of drive, and is 50 ohm in/out. You'll need to add an
>LC low-pass filter to improve the harmonic suppression to the
>necessary -60dBc, and you can control the output power by
>varying the power supply to the internal driver stage.

The S-AV17 is the stock amplifier in many Kenwood 2m FM mobile radios
and possibly other brands. It's a two stage bipolar transistor class-C
amplifier, so it's only suitable for FM. Be careful when mounting these
not to bend the baseplate and crack the ceramic (this seems to be the
primary mode of failure).

Another approach is to obtain a commercial mobile radio and remove the
power amplifier, harmonic filter, and T/R switch from it. Then for <$50
you'll have a 50 ohm in/out amplifier, heat sink, harmonic filter, and
half of the T/R switch. (You'll need another relay to select whether the
HT goes into the amplifier or the straight-thru receive path, but this
relay only needs to handle 200 mW of course). Most of the Motorola
models were built assuming 400 mW of drive from the exciter, so rated
output may not be obtainable with only 200 mW. (But, see below). This
project would end up quite a bit buliker than a module-based amplifier
would be.
>
>Be very careful with your T/R switch, as this amplifier has a
>lot of gain and will oscillate easily if the output is coupled
>to the input.

Very true. This is the main problem with trying to boost a 200 mW
HT signal. My C508 440 MHz amplifier had some trouble with this, I ended
up having to settle for 15W of output instead of 20, which of course is
still "noticeably better" (17 dB) than 280 mW. This is with a 4-stage

amplifier from an RCA "700" radio (early '70s vintage), and homemade reed relays.

-Mike KD4QDM

1669. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: ecgallup@mlode.com
Message-ID: <4i84cf$47g@news.wco.com>
Source record: 106747

>>>>>
>You guys are right it is Raytheon, but you have to remember I am the one
>looking for the transistor and it has been 40 years since I've seen the
>darn thing.....it was blue, I got that right.
>
> TNX Gary KF9CM
>

I'll add to this thread. I have one... MY first transistor acquired in
1961, and I want to keep it. It is retangular, and SILVER !

Ed WB6SAT

1670. Re: WTB: want to build .2watt drive amp 2mtr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: ESPI35E@prodigy.com
Message-ID: <4i86i9$n2o@usenetz1.news.prodigy.com>
Source record: 106748

Look in the new '96 ARRL Handbook. There's an amp just like this one.
They call it a "brick" amp. The setup includes a table for a pad you
install on the PCB that'll allow almost any drive level from .5 to 5
watts.

1671. Re: EIMAC 5CX3000A tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4i87s6$r7h@crash.microserve.net>
Source record: 106749

In article <4hv7ig$h28@i-2000.com>, dougrand@i-2000.com says...
>
>Boy! That would sure make a nice driver for a decent sized final!!
>
>flanders@znet.groupz.net (Jerry Flanders) scribed:
>
>xxI recently picked up a piece of surplus gear with a big EIMAC
>5CX3000A
>xxtube. I have written to EIMAC to get operating voltages for this
>xxmonster, but they may not respond in time for shopping for a plate
>xxtransformer at this weekend's hamfest.
>
>xxCan somebody please post or e-mail the operating voltages / limiting
>xxspecs for it?
>
>xxThanks
>
>xxJerry Flanders W4UKU South Carolina flanders@groupz.net
>
>
>I have that information in my desk at work. Call WSBA radio in york
penna if you are serious about the specs, and I will pass along the
info. 717-764-1155 I received a new Eimac specbook for an amateur
project, and it lists the full current production line. Don KD3SH

1672. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <S054XLAO+9RxEwkr@ifwtech.demon.co.uk>
Source record: 106750

>
>Roy Lewallen, W7EL, OF (don't ask)
>
> - who remembers when there were two available transistors, the CK722 (for
>$1) and CK721 (for $3). But $ were much bigger then. . .

Over here they were called Red Spot (for audio) and White Spot
(for RF... well, er, medium-wave).

It's never been the same since they stopped painting transistors by
hand.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1673. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <CEx8bFAtt9RxEwFZ@ifwtech.demon.co.uk>
Source record: 106751

In article <4i384o$av1@newsbf02.news.aol.com>, K2EK wrote:
>In article <4hmiir$8ak@daryl.scsn.net>, gss@scsn.net (Greg Snellgrove)
>writes:
>
>>The silver product cost $12.35 and the plating brush that
>>connects to the negative side of your battery is $1.35.
>
>For what it is worth, I've used a similar product consisting of a brush
>"pen" which held 2 AA cells and a ground return lead out the top.The
>plating material comes from a loop of silver wire within the brush. Dip
>the brush in an electrolyte solution and "paint" on the silver...
>
> While slow, it does a credible job on flat or simple surfaces (such as
>1/2" copper water pipe for 2m cavities). Trying to plate a 3.5" diameter
>30t coil of 1/8" tubing after forming the coil was another story.
>Trying to plate the inside of some homemade waveguide or other irregular /
>inaccessible shape is probably impossible.

No problem! K9EEY's 'Ham Radio' article about using spent (silver-
loaded) photographic fixer solution also describes a "brush" made from
sponge wrapped around the end of a carbon rod. In this case the silver
comes from the solution rather than an internal silver anode, so the
sponge has to be dipped back into the jar at frequent intervals.

The carbon rod can be made any size and length you need. The long, slim
copper-plated carbon rods sold as arc-brazing electrodes are great for
plating the insides of tubing. Before using the rod, pare away all the
copper from the end that will contact the sponge and solution. Wrap the
rest of the copper surface tightly with tape to avoid shorts and
unwanted electrolysis of the copper. Obviously you could extend the
"handle" with any length of insulated metal tubing, to reach the bottom
of a cavity for example.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1674. Changing freq on RS 21-409 transciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: god@netaxs.com
Message-ID: <4i9mcm$mgr@netaxs.com>
Source record: 106752

I have a cheap Rat Shack 49.830MHz transciever that I want to refit to transmit (and recieve if possible) in the cordless phone handset band (48.76MHz to 49.970MHz). The unit has two crystals in it (which I assume control freqs). One is 16.45833 (MHz or Khz?) The other is 16.610 (MHz or Khz?) .. Would it be possible to replace the crystals to change the freqs? Ideally I'd like to be able to select channel numbers (1-25). Could I use a voltage controlled oscillator or something? I'm waiting to get the service manual from rat shack, so I *may* have more details then.

Thanks A Bunch

http://www.netaxs.com/~god

1675. Re: EIMAC 5CX3000A tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Mar14.150015.5643@ucl.ac.uk>
Source record: 106753

> xxI recently picked up a piece of surplus gear with a big EIMAC
> 5CX3000A
> xxtube. I have written to EIMAC to get operating voltages for this
> xxmonster, but they may not respond in time for shopping for a plate
> xxtransformer at this weekend's hamfest.
>
> xxCan somebody please post or e-mail the operating voltages / limiting
> xxspecs for it?
>
> xxThanks
>
> xxJerry Flanders W4UKU South Carolina flanders@groupz.net

Hers my data that I collated some time ago. From Eimac Catalogue.
5000W dissipation
9kV @ 2.5A HT
18.6kW output. Dont ask me what class this is in.
heater = 7.5V @ 75A.

Eimac 3CX5000A3 Triode 110MHz 5,000W 9,000V @ 2.50A 18,600W 7.50V @ 75.00A Industrial heating also recommended as a GG FM amp, or linear.

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

1676. Kit QRO HF rigs...Hands Electronics RTX series?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: yee@mipg.upenn.edu
Message-ID: <YEE.96Mar14104036@picard.mipg.upenn.edu>
Source record: 106754

A couple of weeks ago, I posted a question about kit hf rigs.

I got a couple of pointers to Kanga US. Apparently, they are a one man operation (definitely a plus...gotta support the little guys) which distributes kits from Hands Electronics, another one man operation in Wales.

The Kanga catalog mentions the RTX 206, RTX 210 and several other kit rigs from Hands electronics. They are multiband CW/SSB kit rigs putting out 15 watts. The design of the rigs is modular and each module can be purchased separately. All together, the rigs ain't cheap but that isn't the point. Building is more fun than buying. What I find most annoying is going to do is to go hunting in multiple catalogs in search of all the parts that I need for a project. Would much rather purchase everything in one block. Besides, I do not currently know enough to design my own rig.

Anybody build these Hands Electronics rigs? How difficult are they to build? What is the performance of the finished rigs?

It occurs to me that I can build an outboard solid state amp for these rigs and bring them to the 100W class rigs. Any flaws to this idea?
--
| 73 de Conway Yee, N2JWQ | DON'T
| EMAIL : yee@mipg.upenn.edu | TREAD
| TELEPHONE : | ON
| FAX : | ME!

1677. Re: XR2211

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: Andrew Jeffreys <sis5322@pbs5.milton.port.ac.uk>
Message-ID: <4i9lfu$kra@hawk.ee.port.ac.uk>
Source record: 106755

Hi,
I have managed to successfully build a modem using the XR2211 and the XR2206 chips. It uses the BAYCOM software which is freely available, runs at 1200 baud, and works very well on 2m once the pots have been carefully adjusted!

I used the schematic on Jim Devenport's homepage, for building this modem. The url is

http://nis-www.lanl.gov/~jdport/emul.html

The baycom software can be found on many FTP sites. The one I used is FTP.FUNET.FI and can be found in the following directory

ftp.funet.fi/pub/ham/packet/baycom/baycom15.zip

I hope this is some help to you !

A J Jeffreys <sis5322@pbs5.milton.port.ac.uk>

1678. WWV radio clock decoding???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: nickb@alpine
Message-ID: <4i9pt9$db7@spock.asic.sc.ti.com>
Source record: 106756

Does anybody know how radio clocks like the Heath Most Accurate Clock decode the WWV signals? Are they decoding the tones or the BCD on the subcarrier or both?

Does anybody know of a radio clock for the WWVB station on 60 KHz?

Are there any kits for radio clocks around?

--
Nick Barbieri, KB6QI
Texas Instruments
ASIC Engineering
email: nlb1@ti.com

1679. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: dmturne@pbdmt.pacbell.com
Message-ID: <4i9u2i$qf5@gw.PacBell.COM>
Source record: 106757

In article <4i7ppq$r0m@nadine.teleport.com> w7el@teleport.com (Roy Lewallen) writes:
>In article <826675019.19snx@wa8tzg.mi.org>,
> wwm@wa8tzg.mi.org (Bill Meahan) wrote:
>>In article <4i1vl3$o18@kirin.wwa.com> turtle@wwa.com writes:
>
>>Gee, I remember the CK722 as being made by Raytheon and in a silver
>>metal can that was of a rounded rectangular shape (kinda like a small
>>IF transformer) with three thin wire leads from a white insulator.
>> . . .
>
>Yep, Raytheon, and you've got the shape right. But they were blue. . .
>

I bought my first CK722 in 1956 or 1957 (according to my increasingly vague memory). It was the rounded rectangular shape. It was the color of dryed blood (dark reddish brown) with a clear layer at the end where the three thin wire leads entered the case. It was made by Raytheon.

Personally, I never saw one that was any other color or shape.

--
Dave Turner (510) 823-2001 dmturne@pacbell.com

1680. Re: Interdigital filter design info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: dmturne@pbdmt.pacbell.com
Message-ID: <4ia04m$r7o@gw.PacBell.COM>
Source record: 106758

In article <31405DC0.11E1@UTM.Edu> Mark Mansfield <markman@UTM.Edu> writes:
>Speaking of interdigital filters, is there a ftp site on the WWW that
>helps one design interdigital filters. I'd like to build a bandpass
>filter in the 400-500MHz range and another for 800-900MHz. Maybe a
>interdigital filter is what I need. Any ideas on this one?
>

The January 1985 issue of Ham Radio had an article titled
"computer-aided interdigital bandpass filter design" that included
a basic program for calculating the dimensions of the digits and
enclosure. It said it was "For reproducible customized design in
the 0.4-5 GHz frequency range.

I tried to reverse engineer the design equations from the program
and I think I found a bug in the basic program but the error
(if it were really an error) was very small.

--
Dave Turner (510) 823-2001 dmturne@pacbell.com

1681. NEED ARRL HANDBOOK/J-38

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: russs@comp.uark.edu
Message-ID: <4ia284$rdk@wizard.uark.edu>
Source record: 106759

I am looking for a 1978 copy of the ARRL handbook, and remnants of or complete J-38 straight key(s) both items of mine were destroyed in a move (the key was disassembled for cleaning and some parts were lost...) They were pretty important to me. If You know where i can get either item, Send me some e-mail.
tnx,
-HRS (N0QLT/5)
(hrs@engr.uark.edu)
--

..Creative Engineers tend to suffer from A.D.D.
==========
= ...I was supposed to have been a Jesuit priest, or a Naval Academy grad =

1682. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: tculin@teleport.com
Message-ID: <4iabe2$osk@nadine.teleport.com>
Source record: 106760
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

moore@isd.upmc.edu (James Moore) wrote:

> GrandFather passed and left 2 garages full of stuff.

> GrandMother wants rid of it.

> If interested call 1 800 996-2971

> Thank You

Well at least he could have put a good phone number on his posting.
Number is not in service.

1683. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: Dave Curtis <david_b_curtis@ccm.sc.intel.com>
Message-ID: <4i9vtr$f3d@inews.sc.intel.com>
Source record: 106761

Always one to avoid gratuitous mathematics, I believe all the quantum
physics one needs to know about antennas is:

"Accelerate an electron, get a photon. It's the law."

Antennas are merely convenient, efficient, places to accelerate
some electrons.

-Dave NG0X

elendir@enst.fr (Elendir) wrote:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: The explanation I learned (admittedly many years ago) is that a photon
>: has zero rest mass, but that it carries a mass equivalent in its
>: energy, as related by the Planck Law, E=hv, and the mass energy
>: equivalence, E=MC^2. That may be intuitively Newtonian, but it gives
>: the right answer for solar sail calculations. I'm not at all sure
>: what you mean by "impulsion", but you seem to be implying that it
>: is a tensor field quantity of some sort that warps spacetime conversely
>: from the way it is warped by gravity. I freely admit ignorance of the
>: finer points of General Relativity.
>
>Well, it is almost true. Almost because the true formula for energy
>is E^2 = M^2*C^4 + P^2*C^2, simplifying to E = M*C^2 at rest.
>Impulsion is P, quantity of motion.
>The vector P and energy E can be in special relativity merged into
>a quadrivector impulsion-energy (maybe the English word is impulse !)
>that get generalized in the general relativity into a tensor field.
>You mentioned the equivalence mass <> energy, thereby the metric tensor
>is bound to energy, and therefore mass, by the Einstein equation.
>
>Vincent
>
>--
>Fox 5 RCS - Round the world and beyond through amateur radio.
>VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1684. HeathKit HP 24

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: "Lorelei Lindenaux (SAR)" <lindenau@virtu.sar.usf.edu>
Message-ID: <Pine.SUN.3.91.960314201527.20197B-100000@virtu>
Source record: 106762

My dad is looking for: HeathKit HP24 AC Power Supply with or without the HA
Amplifier. Please call him at 1-813-842-4818
W4NHP Maurice New Port Richey Fla.
You can e-mail me at lindenau@virtu.sar.usf.edu and I can have him call
you instead. Thanks, Lorelei

1685. Re: ? High Power Zener Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4i88i2$r7h@crash.microserve.net>
Source record: 106763

In article <31460701@SmtpGate.Oen1.Oen.Siemens.De>,
guenter.koellner@oen.siemens.DE says...
>
>
>Hello,
>
>sometimes high power Zener diodes are used to stabilize grid voltages
for
>tubes. For example screen grid on tetrodes with high voltage but low
>current, otherwise control grid/cathode bias for triodes. 10W and 25W
zeners
>are mostly used for this purpose. But there is a problem: standard
zener
>diodes are named ZPD+voltage indicator, high power devices mostly
1Nxxxx.
>
>Who has or where can I find a list identifing these devices?
>
>Thanks a lot in advance!
>
>vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
> dl4mea@amsat.org (Internet)
> http://www.scn.de/~koellner (WWW)
I am not sure how you can get a copy, however, here in america is a
company called "North American Philips" a spin off of Philips of the
nederlands. They produce a general purpose replacement line of
semiconductors and a cross referance book listing tens of thousands
of original equipment part numbers. They will have the zeners you are
looking for and a way to find them using equivalent OEM part numbers.
Maybe I could get a catalog to you, or help you find what you want.
I recently used zeners for screen grid voltage stablizing. Big
surprize, Screen grid current is sometimes reverse flow back into
zeners. 73 Don KD3SH

1686. QRP..Does anyone have plans for a cheap one.??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: Dave Perkins <davep@cts.com>
Message-ID: <4i7sdp$gqh@news2.cts.com>
Source record: 106764

Looking for plans for a QRP rig..If anyone has plans or know of any article for one, please let me know...Im 17 so I dont have much cash, in fact Im pretty much broke..Any help would be extremly appreciated..!!

Dave in San Diego

1687. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4i9iij$9n8@hpcvsnz.cv.hp.com>
Source record: 106765

WB3U (jackl@pinetree.microserve.com) wrote:

..

: The best protective finish I have found for electronic parts is
: polyurethane varnish. It's somewhat more brittle than other oil-based
: varnishes, but is probably the toughest single-part, air-dry finish
: on the market. Once it has fully cured (usually three to four weeks),
: polyurethane is nearly as hard as baked enamel. The only drawback to
: polyurethane is its deterioration in sunlight, but marine and exterior
: versions are available with UV blockers that will significantly extend
: the life of the finish under adverse conditions.

..

Thanks to Jack for a nice posting on using polyurethane varnish. I had a brief email exchange with Jack about one issue that remains in my mind, and agreed to post it here to see if anyone has any difinitive info on it.

My concern is that polyurethane has a rather high dissipation factor. It was a little hard to find listings, but looks like about 0.05, compared with .0002 or less for polystyrene, polyethelene and Teflon. So the question is, given that it's used in a rather thin coating, does that really make any difference? Has anyone actually measured the unloaded Q of a cavity before and after coating with any type of clear coat, whether it's polyurethane or acrylic or something else?

--
Cheers,
Tom
tomb@lsid.hp.com

1688. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar14.165040.27505@ke4zv.atl.ga.us>
Source record: 106766

In article <Do84FG.CF@ncifcrf.gov> mack@ncifcrf.gov (Joe Mack) writes:
>In article <1996Mar12.183923.17244@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>>This is a really nice intuitive explanation, but somehow I find it
>>lacking (as I also find the explanation in the Antenna Book lacking).
>>For example, the Antenna Book seems to be saying that an antenna needs
>>to be a large fraction of a wavelength in size to radiate well, but
>>then we have magnetic loops like the Isoloop which are tiny fractions
>>of a wavelength yet radiate well. And I'm not sure we can say fields
>>are imaginary when EM radiation can have mass (solar sails, Special
>>Relativity, etc). ^^^^
>
>I think solar sails work because light has _momentum_

Yes indeedy, but momentun has the units of *mass* times velocity.
That's the problem. To get momentum transfer, we have to satisfy
M1*V1=M2*V2, where M1 and V1 are the sail's mass and velocity
and M2 and V2 are the photon's mass and velocity. Setting M2 to
zero yields zero momentum transfer. So we have to assign some
value of mass to M2 in order for a solar sail to work. Since
a solar sail does work, that implies light has mass (or something
equivalent to mass, in this case E=hv becomes through mass
equivalence M=E/C^2). That works too. We find, for example,
that a UV photon delivers more momentum to the sail than an
IR photon because it has greater energy, and hence greater
mass equivalence.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1689. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: Burt Fisher <k1oik@ccsnet.com>
Message-ID: <3147FDE3.40E3@ccsnet.com>
Source record: 106767
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

James Moore wrote:
>
> GrandFather passed and left 2 garages full of stuff.
>
> GrandMother wants rid of it.
>
> If interested call 1 800 996-2971
>
> Thank You

Thanks for all the detail.

#================#===#
Burt Fisher	Teacher of video, broadcasting and electronics
Amateur call	South Dennis, Ma. (Cape Cod)
K1OIK	If you sit on the fence, it is a pain in the butt
#================#===#
| k1oik@ccsnet.com |
#===#
You cannot build a reputation on what you are going to do.
Henry Ford

1690. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: cj@hth.com
Message-ID: <4i9k1d$ckd@prometheus.algonet.se>
Source record: 106768
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.html

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.html

[--- cut ---]
```

```
=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
New Contribution [ ] Update [ ]
-----------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
-----------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
-----------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=============================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer
```

1691. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4i7ppq$r0m@nadine.teleport.com>
Source record: 106769

In article <826675019.19snx@wa8tzg.mi.org>,
wwm@wa8tzg.mi.org (Bill Meahan) wrote:
>In article <4i1vl3$o18@kirin.wwa.com> turtle@wwa.com writes:

>Gee, I remember the CK722 as being made by Raytheon and in a silver
>metal can that was of a rounded rectangular shape (kinda like a small
>IF transformer) with three thin wire leads from a white insulator.
> . . .

Yep, Raytheon, and you've got the shape right. But they were blue. . .

Roy Lewallen, W7EL, OF (don't ask)

- who remembers when there were two available transistors, the CK722 (for
$1) and CK721 (for $3). But $ were much bigger then. . .

1692. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: maf@eng.mc.xerox.com
Message-ID: <1996Mar14.131658.26327@news.wrc.xerox.com>
Source record: 106770

[No readable article body recovered]

1693. Ham Radio Equipment For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: Unknown
Message-ID: <4i7rnp$skj@prometheus.localnet.com>
Source record: 106771

Yaesu FT-736R. Tranciever , 2 Meter + 70 CM (440 MHZ.)
Yeasu YS-500 SWR + Power meter
Yaesu Dynamic Mic.
Cushcraft A430-11 70 CM. FM YAGI Ant.
Cushcraft A144-11 2 Meter YAGI Ant.
Alliance Heavy Duty Rotator Dual Speed

$2000.00 or best offer.

E-Mail Rhoopesjr@aol.com or rayjr@localnet.com
Phone Number 716-973-3431 ask for Ray Sr.

1694. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: jbaltz@news.cs.columbia.edu
Message-ID: <4iaf98$5s7@play.cs.columbia.edu>
Source record: 106772

In article <1996Mar14.165040.27505@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>Yes indeedy, but momentun has the units of *mass* times velocity.
>That's the problem. To get momentum transfer, we have to satisfy
>M1*V1=M2*V2, where M1 and V1 are the sail's mass and velocity

No, we have to satisfy p_{initial} = p_{final}.

>and M2 and V2 are the photon's mass and velocity. Setting M2 to
>zero yields zero momentum transfer. So we have to assign some

When you talk in terms of photons, you have to talk in terms of 4-vectors.
If you just wanted to talk about radition pressure, you could use the
Poynting vector.

>that a UV photon delivers more momentum to the sail than an
>IR photon because it has greater energy, and hence greater
>mass equivalence.

Your first clause is correct, but your conclusion is not sound. m1*v1=m2*v2
doesn't hold relativistically.

>Gary

//jbaltz
--
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@cs.columbia.edu jbaltz@scisun.sci.ccny.cuny.edu KE3ML

1695. Re: AD7008 DDS Chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <655.6646T1001T2004@nycmetro.com>
Source record: 106773

>Anyone know how much the Analog Devices AD7008 direct digitial synthesis
>chip costs in single unit quantities? Also, where would I get it from?
>Thanks.

>Robert
You might try calling Digi-key and/or MCM electronics and inquiring. They both
have 800#'s.
Am I correct in thinking this is a Chip to tune in different FREQ's?
Thanx

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1696. How to test a 3cx3000 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: paul1@wizard.ucs.sfu.CA
Message-ID: <9603141029.AA22619@wizard.ucs.sfu.ca>
Source record: 106774

Does anyone have the means of testing a 3cx3000 ? I have one kicking around in my junk box, and before I turn it into a bookend or something would like to know if it is functioning (or should I say functionable???)

I'm happy to pay shipping and a reasonable fee if necessary. I won't need it in any event as my linier plans revolve around some 4cx1000's and 4cx1500's I have as well, but knowing it is workable would be nice if I decide to sell or swap it.

cheers, Paul
ve7cqk
email: paul1@wizard.ucs.sfu.ca

1697. What am I allowed to transmit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-14 00:00:00 UTC
From: mgt@unb.ca
Message-ID: <mgt.18.0008BE66@unb.ca>
Source record: 106775

Hello!

I'd like to play around with some transmitter circuits with a range of maybe a couple of hundred feet. What is the maximum power allowed without a licence and for what range of frequencies? BTW, I live in Canada so obviously Canadian rules apply here.

Thanks for any help.

Mike Thompson
University of New Brunswick
Fredericton, NB

1698. Re: QRP..Does anyone have plans for a cheap one.??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <630.6647T1268T1706@nycmetro.com>
Source record: 106776

> Looking for plans for a QRP rig..If anyone has plans or know of any
>article for one, please let me know...Im 17 so I dont have much cash, in
>fact Im pretty much broke..Any help would be extremly appreciated..!!

> Dave in San Diego

I think the February 1996 issue of CQ had an article with plans.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1699. Re: Need Charger for Lead Acid Gel Cell Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: glittle@awod.com
Message-ID: <4iahtv$dp8@harbour.awod.com>
Source record: 106777

In article <4i1e7p$9f0@newsbf02.news.aol.com>, dabloodgod@aol.com (DABLOODGOD) says:
>
>I bought one of these at a swap meet last month, and now I need a charger
>for it - Its the size of a large car battery - so the small RC plane model
>Ive seen wont really provide enough current. The battery name plate
>describes 2 voltages - 14.2 to 14.4 volts for charging and 13.6-13.8 volts
>for trickle charging (these voltages are approximate) The key thing is
>that the charger is supposed to have 2 modes - 2 voltages and be able to
>switch between them when appropriate. I saw a article in a newsprint
>magazine (World Radio Times ?) last month, Unfortunately, Ive recently
>moved and trashed the magazine, before I realized that I needed the
>article.
>
>If anyone has that magazine, or has an idea for a charger, or knows who
>sold that I kit, I would appreciate having the information
>
>Thanks and 73's de Dave, kd6pro.

Unitrode makes an ic for charging starved electrolyte (new name for gell cells) batteries.
The device requires programming resistors and a pass transistor.
Part number is UC3906N.

73
Glenn Little
WB4UIV

1700. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: glittle@awod.com
Message-ID: <4iais1$dp8@harbour.awod.com>
Source record: 106778

In article <4i9iij$9n8@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com (Tom Bruhns) says:
>
>WB3U (jackl@pinetree.microserve.com) wrote:
>
>..
>
>: The best protective finish I have found for electronic parts is
>: polyurethane varnish. It's somewhat more brittle than other oil-based
>: varnishes, but is probably the toughest single-part, air-dry finish
>: on the market. Once it has fully cured (usually three to four weeks),
>: polyurethane is nearly as hard as baked enamel. The only drawback to
>: polyurethane is its deterioration in sunlight, but marine and exterior
>: versions are available with UV blockers that will significantly extend
>: the life of the finish under adverse conditions.
>
>..
>
>Thanks to Jack for a nice posting on using polyurethane varnish. I had a
>brief email exchange with Jack about one issue that remains in my mind, and
>agreed to post it here to see if anyone has any difinitive info on it.
>
>My concern is that polyurethane has a rather high dissipation factor.
>It was a little hard to find listings, but looks like about 0.05,
>compared with .0002 or less for polystyrene, polyethelene and Teflon.
>So the question is, given that it's used in a rather thin coating, does
>that really make any difference? Has anyone actually measured the
>unloaded Q of a cavity before and after coating with any type of clear
>coat, whether it's polyurethane or acrylic or something else?
>
>--
>Cheers,
>Tom
>tomb@lsid.hp.com

A microwave oven can be used to determine relative loss of different
materials to RF.
Heat the material in the microwave oven for a short time.
Include a cup of water as a load.
The hotter the material gets, the lossier it is to RF.
I have some bowls the expoded in the microwave oven due to disipation.

73
Glenn Little
WB4UIV

1701. Re: ground a 5/8 wave on a trunk lip mount?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar15.023820.29750@ke4zv.atl.ga.us>
Source record: 106779
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <charlie-1303962112150001@thebe01.netdepot.com> charlie@netdepot.com (Charlie Fortner) writes:
>I've got a trunk lip mount and I want to use a 5/8 wave antenna with it.
>If I attach a piece of wire running from the ground of the antenna to a
>suitable ground in the trunk, will this have the same affect as putting
>the antenna on the roof of my car? Thanks.

No. For the current mirror to be effective, it has to be directly
under the antenna. The only way to get top of the car performance
is to mount the antenna on the top of the car. Mounting on the trunk
will result in directional properties because the signal will be
shielded by the cabin to the front, and because the groundplane
under the antenna will be asymmetric. Running a wire inside the
car will have no effect on the antenna pattern. The antenna is
already "grounded" by the trunk lip mount. THe trunk lid is its
groundplane (such as it is).

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1702. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn4khkbr.3f4.mulveyr@ll.aa2ys.ampr.org>
Source record: 106780

On Wed, 13 Mar 1996 02:08:13 GMT, Jim Weir <rst-engr@oro.net> wrote:
>Lee Blaske <lblaske@pclink.com> shared the following priceless pearls
>of wisdom:
>
>>It was expained to me that the Heath light green finish as found on the SB series is
>>not a crackle finish. In fact, that finish is accomplished by some sort of
>>spattering process using a special paint spraying nozzle. Ron Eisenbrey, who
>>refinishes vintage ham gear, just finished a batch of Heath equipment. It'll
>>probably be some time before he gets around to Heath again.
>
>If I'm not mistaken (and I frequently am) we used to get a good
>crackle finish by first applying enamel, waiting until it set up
>tacky, then oversprayed with lacquer. Somehow the solvents in the two
>varieties hated each other and got to fighting amidst the hills and
>crevices of the finish.
>
>Or something like that. Oh, the poster who said the Heath finish
>wasn't crackle is correct. I believe the correct term for the Heath
>finish is hammertone, and I DON'T know how to do that one easily.
>

Well, you can get Hammertone(tm) paint at many craft shops - I
use it for all of my homebrew rigs, and love it.

- Rich

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com
aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

1703. Re: lightning detector, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: wvanho@infinet.com
Message-ID: <4ibmsv$ml4@news1.infinet.com>
Source record: 106781

: In <4i47l1$21r@nkosi.well.com>, Tom Kreyche <tkreyche@well.com> writes:
: >Obviously with a relatively low frequency radio, e.g. am broadcast band
: >you can easily pick up lightning induced noise, but how do you translate
: >it into distance? The audio output could easily be filtered and
: >digitized, does amplitude translate directly into distance? What
: >frequencies are best for lightning detection?
: >
: >Thanks, Tom Kreyche KG6YJ

In ancient times (during WW2), I was a very junior participant in a super secret AAF project (except that the Japanese, and probably Germans, too, knew all about the subject. A Japanese professor named Kimpara was one of the early investigators during the '30's) to develop a long range storm detector system utilizing radio "static" for triangulation.

Atmospheric static (the project was code-named 'Sferics) propagates best at ultra-low frequencies. We used 10-KHz. Like all low frequency radio waves, they propagate via a ground wave, which rapidly dies out with distance in a square-law manner), and sky wave that travels all around the world. Over salt water, the latter travels in straight lines, and a very simple RDF system will give reliable results over thousands of miles of ocean. The 'Sferics detectors were simple shielded loop antennas, one oriented N-S and the other E-W, tuned to resonance at 10-KHz. Each developed a signal that was amplified by a three-stage amplifier and the raw 10-KHz. outputs were put on the vertical and horizontal plates, respectively, of a CRT. A distant static crash would cause a diagonal line to appear on the scope at an angle equal to the azimuth, to a high degree of accuracy.

The original development used three stations, located at Red Bank, NJ, Palm Beach, FL, and Bermuda. We had BC-610 transmitters and dipole antennas at all three stations. For an observing "run", each station would take turns and one person would watch the scope with a mike in his hand. When he saw a "strike", he would shout "number one" (or two, etc.) into the mike then write down the angle he read. When all three stations had taken turns counting out about 20 "strikes", we would dictate the angles read back to the home station at Red BAnk. There, we had a map board with weighted strings through holes representing the three locations. It was a simple task to pull out the strings at the correct angle for each "stroke" and plot the intersection point of all three bearings.

For a while, I was the observer on a B-17 that flew reconaissance flights covering most of the North Atlantic to verify that the storms detected were actually there. I can testify that they were!

Later, two such "nets" were established in the Pacific. The one I was with had stations in the Philippines area in northwestern Luzon, Samar, Palawan, and Morotai. The central Pacific net was headquartered on Guam, but I don't remember the locations of the other stations.

As soon as the war was over, the project was abandoned because of the amount of manpower it required. Many years later, Paul Ryan realized that local storm detection could be done using the same azimuth detection scheme and estimating the distance by measuring the amplitude of the signal. The amplitude drops off at the square-law rate and the pilot is primarily concerned about the storms nearest to him, so a strong signal means it is close by and he knows to get out of its way, pronto! If the measurement of the distance of another storm farther away is not too accurate, he really doesn't care much. That is the principle of the Ryan StormScope, which has been very successful.

73, Van - W8UOF
wvanho@infinet.com

1704. Re: Changing freq on RS 21-409 transciever

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4iaru4$e4@news3.cts.com>
Source record: 106782

God (god@netaxs.com) wrote:
: I have a cheap Rat Shack 49.830MHz transciever that I want to refit to
: transmit (and recieve if possible) in the cordless phone handset band
: (48.76MHz to 49.970MHz). The unit has two crystals in it (which I assume
: control freqs). One is 16.45833 (MHz or Khz?) The other is 16.610 (MHz or
: Khz?) .. Would it be possible to replace the crystals to change the freqs?
: Ideally I'd like to be able to select channel numbers (1-25). Could I use a

The crystals used work on the third overtone. 16.61 MHz is the transmit
xtal 3 x 16.610=49.830. 16.45833 is the receive xtal. 16.45833 x 3 =

49.37499, call it 49.375. The 49.375 mixes with the received 49.830
to produce a 455 kHz IF signal.

The crystals can be replaced with others using that method of calcualation
backwards to find the new xtal freqs required to operate on a particular
channel, remembering, of course, any requirement for licensing that might
exist. It would be hard to keep two different adjustable oscillators
tuned properly to transmit and receive. To operate easily, you would
need to build a Phase Locked Loop oscillator, together with the
proper controls to choose the required divisor ratios.

John Kolb

1705. Re: lightning detector, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4iaslf$9nc@cc.iu.net>
Source record: 106783

In <4i47l1$21r@nkosi.well.com>, Tom Kreyche <tkreyche@well.com> writes:
>Obviously with a relatively low frequency radio, e.g. am broadcast band
>you can easily pick up lightning induced noise, but how do you translate
>it into distance? The audio output could easily be filtered and
>digitized, does amplitude translate directly into distance? What
>frequencies are best for lightning detection?
>
>Thanks, Tom Kreyche KG6YJ

something like that. if i remember right the 3m/ryan stormscope was basically an ADF receiver (to get bearing) and they did some stuff to arrive at a "distance" number - somewhat proportional to amplitude (a strong strike far away shows closer than it really is..)

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

1706. Digital Tuner Circuit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <605.6647T1406T2483@nycmetro.com>
Source record: 106784

Anyone got a good circuit Design for a Digital Tuner? I'm thinking of building my own 2 M Receiver then later a Transmitter but Can't deal with Tuning Potentiometers. Preferably the Circuit would have LCD readout. Please email or point me to a site to FTP or WWW it from. Thanx

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1707. Re: WWV radio clock decoding???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4ib6u4$jf6@news.calweb.com>
Source record: 106785

nickb@alpine (Nicholas Barbieri) wrote:
>Does anybody know how radio clocks like the Heath Most Accurate Clock
>decode the WWV signals? Are they decoding the tones or the BCD on the
>subcarrier or both?
>
>Does anybody know of a radio clock for the WWVB station on 60 KHz?
>
>Are there any kits for radio clocks around?
>
>--
>Nick Barbieri, KB6QI
>Texas Instruments
>ASIC Engineering
>email: nlb1@ti.com

You can get all the details of the WWV coding from NIST in Boulder
Colarado. Spectracom in Rochester New York did make and I think still
makes a receiver for WWVB at 60 KHz. It will give accurate time and
frequency.

Bill K7NOM

1708. When silence is golden, or, Re: IC-726 freq. mods...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4ict4o$5b9@peabody.colorado.edu>
Source record: 106786

Looking more closely at the schematics of my IC-726 as a result of earlier in this thread, I noticed something interesting and would like to share... In short, silence might be golden.

There's this diode, D5 you can clip to convert the thing from ham-bands-only MF-HF TX to general coverage TX. They don't mention this in the instruction manual, naturally. However, D5 is right there on the schem., with all its neighbors. They connect various pins on a CPU to one another, with opaque names like "Y0,Y1,Y2...Y7," and "DB0...DB7" similarly. Also, there's an NPN transistor switch feeding each of these places too, same as where the diodes go. Here comes the silence: _ALL_ _BUT_ _ONE_ of the transistors are given plain-text functions:"CI-V bus check; mic ck; mic ud (up-down, presumably); tuner on; RIT data; and KEY"... and following this unnamed one around all over the circuit there is NEVER a plain text description of what it's for.

_____
Guess what? This one's connected to D5. General Coverage TX, I guess.

Now let's turn to the instruction manual.

These diodes have logic functions. There's a section on the remote-jack "Communication Interface" (CI-V) region of the circuit, and depending on what address you want to call the radio from an external computer's point of view depends on installing or removing some diodes around there. (They say the IC-726 comes with a default address of 30H (48).) So there's a sketch of all the diodes, labeled, and a little table of which diodes do what, etc... and some diodes are drawn in that aren't actually there - you have to install them - and other diodes that ARE there aren't drawn - they're irrelevant to the discussion at hand. *EXCEPT ONE*. D5, again, is mysteriously drawn in, and it *is* *actually* present, but it *is not* mentioned anywhere in that section - or anywhere else so far as I have found.

Now that I know what D5 is for - and I've clipped it - their silence is deafening.

Listen carefully! There might be some good stuff there.

Bruce
N6URH

1709. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4icrj6$la3@abyss.West.Sun.COM>
Source record: 106787

In article <4icn67$5a1@tempo.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>Dana,
>
>: The MPF102 is essentially a 2N4416, and the data for this part
>: suggests that the J310 has a lower NF (about .5dB) and a
>: significantly stronger IP3 (at least 10dBm better).
>
>Thanks.
>Maybe I'll use a BF 998 though (yes, yes, a European part !) :-)
>
>: What kind of mixer are you going to use after the FET preamp?
>
>A NE 602 I think. It has good charcteristics at ~ 45 MHz.
>And low NF (4.5 dB)

I recall the NE602 has a very poor IP3, like -15dBm, though it
has a bunch of gain. I personally wouldn't use one in a front
end without a very, very selective front end filter. If you
insert most of the selectivity between the pre-amp and the mixer,
you can maintain a decent NF...

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1710. Re: Kit QRO HF rigs...Hands Electronics RTX series?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: Jim Strohm <"Jim Strohm"@ausq1ak>
Message-ID: <4ibsho$rqg@newsgate.sps.mot.com>
Source record: 106788

yee@mipg.upenn.edu (Conway Yee) wrote:
>It occurs to me that I can build an outboard solid state amp for these
>rigs and bring them to the 100W class rigs. Any flaws to this idea?

Your only concern would be that you'd need to turn down the output
from the Hands rig to something that a typical 100-watt-class solid-
state amp would like to see. The most common "kit" solid-state
amp (not really a kit, but a board and a parts list) likes to see 4
watts or so for 100 - 150 watts out. This is based on the old
Motorola 140 watt push-pull HF amp designed by Helge Granberg about
a million years ago. These are easy to build. You can probably
locate one of these already assembled if you know where to look.

Jim N6OTQ Please direct all flames to 27.185.000.000

1711. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ibqbj$e23@nadine.teleport.com>
Source record: 106789

In article <4i7vaj$161@newsbf02.news.aol.com>, k2ek@aol.com (K2EK) wrote:
>
>>>I am looking for a CK722 Philco transistor
>
>Gary - must have blown away your original note & E-mail address, so cant
>respond directly. I took another look through my junk box and found a
>couple CK-721s. Same size & pedigree as the 722. If memory serves (dont
>count on it!) the 721 was the NPN version of the 722 - or was it the other
>way around... Anyway, I'd be willing to give one up if you are interested.
>
>de Bill K2EK

The '721 had higher beta than the '722. Both were PNP -- the first NPN I
recall was the 2N170, some time later.

In all the email flying about on this vital topic, it's become apparent
that some were blue, some silver. My last remaining '721 is blue.

Roy Lewallen, W7EL, OF

1712. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: "JOSE V. GAVILA" <Fermax.esp@vlc.servicom.es>
Message-ID: <4ibh4g$2ft@ns.mad.servicom.es>
Source record: 106790
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

Please, can you give me details of materials?

Thanks!

73's JOSE - EB5AGV / EC5AAU

1713. Re: wanted plans: j-pole 440..300ohm ant for HT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: Collier_Chun@ccm.hf.intel.com
Message-ID: <4ic0sj$i95@ornews.intel.com>
Source record: 106791

In article <4i2giu$66n@mark.ucdavis.edu>, szhall@dale.ucdavis.edu says...
>
> I am looking for plans for using 300 OHM TV lead to make a 440 ant. for
>my uhf HT..I have the plans for the 2 meter. Now I would like the same
>sort of ant. to My HT..This way I can roll it up and take it with me to
>the great outdoors...Hope someone can help...thanks..Jeff

The ones I've built load well on 440 MHz if they load well on 144 MHz.

As for radiation pattern...well, I honestly don't know.

I *DO* know that Elnec reports that a 144 MHz quarter wave ground plane
loaded at 440 MHz has some *strange* radiation pattern, with a primary
lobe off at a 45 degree elevation, and a minor lobe on the horizon!

1714. Help needed. Yeasu FT-411 hack

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: j-macfar@uwe.ac.uk
Message-ID: <1996Mar15.152338.7016@pat.uwe.ac.uk>
Source record: 106792

I have heard that it is possible to hack certain hand-held ham rigs to
tune their receivers over a wider range than just the ham bands.
I have a Yeasu FT-411 hand-held (2 metres). Does anyone know if there is
a hack to allow this rig to receive outisde 144-146 MHz? I believe in some
rigs there is a link or a diode to remove.
Any help would be appreciated.
Reply by e-mail if you like (To: j-macfar@uwe.ac.uk).
I will post the solution (if there is one !).

James Macfarlane, University of West of England, Bristol. j-macfar@uwe.ac.uk
I was told and I forgot. I saw and I remembered. I did and I understood.

1715. Re: Interdigital filter design info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <ue8NJGAXpWSxEwpH@ifwtech.demon.co.uk>
Source record: 106793

Dave Turner wrote:
>
>In article <31405DC0.11E1@UTM.Edu> Mark Mansfield <markman@UTM.Edu> writes:
>>Speaking of interdigital filters, is there a ftp site on the WWW that
>>helps one design interdigital filters. I'd like to build a bandpass
>>filter in the 400-500MHz range and another for 800-900MHz. Maybe a
>>interdigital filter is what I need. Any ideas on this one?
>>
>
>The January 1985 issue of Ham Radio had an article titled
>"computer-aided interdigital bandpass filter design" that included
>a basic program for calculating the dimensions of the digits and
>enclosure. It said it was "For reproducible customized design in
>the 0.4-5 GHz frequency range.

I sent Mark a copy of this program, updates with a more civilized user interface. If anybody else wants it (as a GWBASIC listing), please e-mail me.

>
>I tried to reverse engineer the design equations from the program
>and I think I found a bug in the basic program but the error
>(if it were really an error) was very small.

Have you any more specific details, please?

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

1716. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: mdf@vigard.mef.org
Message-ID: <mdf.826904930@vigard.mef.org>
Source record: 106794

gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>>I think solar sails work because light has _momentum_
>
>Yes indeedy, but momentun has the units of *mass* times velocity.
>That's the problem. To get momentum transfer, we have to satisfy
>M1*V1=M2*V2, where M1 and V1 are the sail's mass and velocity
>and M2 and V2 are the photon's mass and velocity. Setting M2 to
>zero yields zero momentum transfer.

you have to balance *momentum*. in this case, we have two items:
the photon and the mirror:

p(photon_in) = p(photon_out) + dp(mirror)

if we limit ourselves to a normal reflection, the p(photon_out)
equals -p(photon_in), so the change in the mirror's momentum is:

dp(mirror) = 2*p(photon_in)
= 2E/c, E = energy of the photon

the sail will be intercepting many ka-billions of photons per unit time.
let us call this flux 'n' photons/second, and as a force is the change
of momentum per unit time:

F(mirror) = 2*n*E/c

however, it is easier to measure measure the power per unit area
(about 1500W/m^2 at 1au from the Sun), call this 'S', and let the surface
area of the mirror, 'A', enter into the equation:

F(mirror) = 2*S*A/c

and while the defintion of 'S' was introduced as the power per unit area
from the source, it should be understood that S is really how much of this
power the mirror can reflect (which is a function of wavelength and
material). left as an exercise for the curious reader is to consider
non-normal incidence, handle the case of photon's that are absorbed by the
mirror, and (bonus) determine the orientation a solar sail ought
to be in order to maximize energy gain, if this mirror is in solar orbit.
--
Matthew Francey | VE3RQX | NAD27: N43o34.210' W079o34.572' +0093m

1717. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <4ic89jINNapg@sepia.wv.tek.com>
Source record: 106795

In article <4hsgjm$cm9@crash.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
>
>Speaking of which, does anyone know offhand if there's a simple (and
>relatively safe) method of tin-plating?
>
>73,
>Jack WB3U

I've been tin plating for awhile now at home. I buy a kit sold at my local
electronic supply store (Norvac). The kit is comprised of two parts:
a tin salt of some sort (stannous chloride maybe? I can't remember), and
a fluid (I can't remember if the liquid is an acid or a base). The kit is
distributed by Kepro. You can usually find ads for Kepro in Nuts and Volts,
or Electronics Now. They also sell the transfer film used for making
circuit boards from your laser printer.
Good Luck,
Ed Burress
KC7GFX

1718. Re: Ham Radio Online March 11th, 1996

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: jchol@aol.com
Message-ID: <4id2n7$n7c@newsbf02.news.aol.com>
Source record: 106796
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics

I have visited the site twice. Really enjoyed the article about launching wires into trees. Keep up the good work.

73 de John, WA5TWL

1719. FS: HT600 2ch VHF $200

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: dclausen@nebula.ispace.com
Message-ID: <4iboek$dj6@news.innet.com>
Source record: 106797

In great shape, new case, almost new battery. 5 watt unit.
Will ship UPS COD CASH, u pay cod fee. E-mail for other info
or call 407.880.9412 after 4PM EST

Thanks!
Dave, KA4VXT

1720. Re: FS: HT600 2ch VHF $200

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: dclausen@nebula.ispace.com
Message-ID: <4iborf$dj6@news.innet.com>
Source record: 106798

Sorry........This got posted to the wrong group.

Dave KA4VXT

1721. PCBs pre sensitised

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: gmfoster@epix.net
Message-ID: <4ic3ug$6bg@guava.epix.net>
Source record: 106799

Could someone point me to a source of positive pre sensitized printed circuit material. I know PCB kits used to sell them. However I called and got an answering machine sometime ago. Asked for current information and still haven't heard anything so I am looking for other sources.
Thanks Garry WB0NNO

1722. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: Danny Goodman <dannyg@dannyg.com>
Message-ID: <3149ACF5.3C3F@dannyg.com>
Source record: 106800
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

Ted Culin wrote:
>
> moore@isd.upmc.edu (James Moore) wrote:
>
> > GrandFather passed and left 2 garages full of stuff.
>
> > GrandMother wants rid of it.
>
> > If interested call 1 800 996-2971
>
> > Thank You
>
> Well at least he could have put a good phone number on his posting.
> Number is not in service.

The number worked from the San Francisco area the same day as the original post. It went to what I think was a voice pager number--message time was about 30 seconds. I had to leave two messages because I was specific about what I was looking...BEEEEP. Anyway, I haven't heard anything back.

He may have disconnected the number after being flooded with pager messages, which he probably has to pay for. Give spam, get spam.

Danny AE9F/6
http://www.dannyg.com

1723. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4ic9es$haq@abyss.West.Sun.COM>
Source record: 106801

In article <4i0ran$ql4@tempo.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>Dana Myers (myers@West.Sun.COM) wrote:
>
>Dana,
>
>: I'd pick the J310 over the MPF102, hands down.
>
>I thought about the J310. But the curves I have (Motorola's Small
>signal BJT and FET data) end up at 100 MHz and do not go below.
>
>And there is no such thing like a NF evaluation...

Actually, I may have the same Motorola book (DL126, Q4/87, rev. 1),
and the J310 data sheet refers to the U310 data sheet for charts.
The chart for NF and Gpg v. frequency goes down to 50MHz (bottom
right of page 6-186). The NF is 1dB, Gpg is 20dB. These numbers
were apparently measured in a test circuit intended for 450MHz,
and it may be possible to get a better noise match.

The MPF102 is essentially a 2N4416, and the data for this part
suggests that the J310 has a lower NF (about .5dB) and a
significantly stronger IP3 (at least 10dBm better).

What kind of mixer are you going to use after the FET preamp?
If I were using a diode mixer with maybe 7dB of insertion loss,
I'd tune the preamp for maybe 9dB of gain, and the U310 data
sheet suggests the IP3 would be around +29dBm!

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1724. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: au156@yfn.ysu.edu
Message-ID: <4icgqg$7qh@news.ysu.edu>
Source record: 106802

Well, it's been interesting and certainly nostalgic to hear people recalling the early Raytheon CK722 transistors and the varying colors of cases that they were apparently made in over the years.

I can attest to the deep blue *and bare aluminum* case styles, since I have specimens of both.

I consulted a wonderful 116 page book called "RAYTHEON Transistor Applications: More than 50 practical Circiuts using Raytheon CK722 Transistors", for a few more factoids. Price for this book: 50 cents. (no date marked, unfortunately, but probably easily before 1959).

Inside the front cover is an aerial photograph of "The home of Raytheon transistors", what apppears to be a brick three story mill building, complete with smoke stack.

"This multimillion dollar plant is the largest in
the world devoted exclusively to the production
of semiconductors."

Somewhat ironically, the address is *California* Street, Newton, Massachusetts.

Turning to the spec sheets at the back of the book, there were four transistors available in the characteristic CK722 case style: CK721, CK722, CK725, and CK727. The differences in the first three seem to be mainly variations in current gain, while the CK727 was optimized for lower (AF) noise:

Type "Average base current
amplification factor"

CK721 45

CK722 22

CK725 90

CK727 25

At the time of publication, Raytheon also offered about 11 conventionally identified germanium PNP point contact transistors, from the 2N63 to the 2N133, not all of which were hermetically sealed. (None of the above CK series were hermetically sealed)

Those were great times back then! New thread idea: remember the International Rectifier B2M photocells?

Hank Riley, N1LTV
h1riley@umassd.edu

1725. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4icg2l$ggi@newsbf02.news.aol.com>
Source record: 106803

In article <4ibfu6$hs9@tempo.univ-lyon1.fr>, elendir@enst.fr (Elendir) writes:

>
>Well. It's not that simple. Otherwise the simple cathodic display you
>are using would be a formidable source of RF energy !!!!! You get a
>photon when you use alternative current.
>
>Vincent.

There certainly is photon emission. There just aren't enough electrons changing directional or acceleration rates over a large area to be a formidable "RF" energy source.

73 Tom

1726. Re: Impedance matching

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4ich9u$m54@kocrsv08.delcoelect.com>
Source record: 106804

Hi Robin;

Your circuit uses a capacitive divider to transform the impedance at pin 1 to the lower impedance of the 50 ohm source.

The formula for R(in) = Q * Reactance of L

2
{[C2(220pf)/ C1 (47pf)] + 1}

You've been given R(in) as 1500 ohms. Reactance of L is 2pi F(45 E6) L (.28 E-6). I leave it to you, the industrious student to work the numbers thru to find the assumed Q.

Other significant circuit descriptions are:

The big cap to ground is just an RF bypass, the inductor serves as a dc return between pins 1 and 2.

Impedance matching is important for termination of transmission lines to avoid a reflection (echo / standing wave) coefficient, and when a high impedance source will be severly loaded by a low impedance load. If the source is low impedance (as represented by a constant voltage source) and the load is high impedance, (as represented by a constant current load), matching, as a practical matter is not nearly as important.

73 de K9JDU

1727. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4icn67$5a1@tempo.univ-lyon1.fr>
Source record: 106805

Dana,

: The MPF102 is essentially a 2N4416, and the data for this part
: suggests that the J310 has a lower NF (about .5dB) and a
: significantly stronger IP3 (at least 10dBm better).

Thanks.
Maybe I'll use a BF 998 though (yes, yes, a European part !) :-)

: What kind of mixer are you going to use after the FET preamp?

A NE 602 I think. It has good charcteristics at ~ 45 MHz.
And low NF (4.5 dB)

Vincent

--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1728. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4icor4$c03@hpcvsnz.cv.hp.com>
Source record: 106806

Dana Myers (myers@West.Sun.COM) wrote:

(in response to Vince's search for an FET that's characterized
well at 50MHz...)

: What kind of mixer are you going to use after the FET preamp?
: If I were using a diode mixer with maybe 7dB of insertion loss,
: I'd tune the preamp for maybe 9dB of gain, and the U310 data
: sheet suggests the IP3 would be around +29dBm!

This reminds me of a design that Macintosh used in FM tuner front ends
many years ago. I wonder if any readers here have taken a close look at
that circuit or one like it. As I recall, it used an FET with fairly
high Idss in cascode with a transistor designed for CATV amplifier
service, so the FET kept a low voltage drop (and therefore reasonable
power dissipation), and the CATV transistor allowed a relatively high
voltage and current collector supply. Supposedly it was very forgiving
of large input signals, but of course folk who buy FM tuners don't
generally look for an IP3 spec, so none was given that I recall. But
maybe someone here can comment on how well a circuit like this really
works.

--
Cheers,
Tom
tomb@lsid.hp.com

1729. Home Brew GPS Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: vk2esl@vk2djg.une.EDU.AU
Message-ID: <5909@vk2esl.ampr.org>
Source record: 106807

Hi.
I have an ICOM GP22 GPS and with it the Magnetic base type
antenna.
The magnetic antenna is fine for mobile work but I have used
the same antenna positioned up on the instrument panel of
my aircraft with disastrous results to my compass, even though
the antenna was situated about 500mm away from it!
I was wondering is it possible to homebrew a small vertical type
of antenna that I can mount with a suction cap to the windscreen
of the aircraft?

1730. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: jaminge@pb2esac.esac.pacbell.com
Message-ID: <4ib0gh$748@gw.PacBell.COM>
Source record: 106808
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

In article <4iabe2$osk@nadine.teleport.com>,
Ted Culin <tculin@teleport.com> wrote:
>moore@isd.upmc.edu (James Moore) wrote:

>> GrandFather passed and left 2 garages full of stuff.

>> GrandMother wants rid of it.

>> If interested call 1 800 996-2971

>> Thank You

>Well at least he could have put a good phone number on his posting.
>Number is not in service.

Doesn't work from S. Calif either. It is possible that it works
locally someplace. Not all 800 numbers are nation-wide. Some of
them are re-used several times in different markets.

I haven't seen any follow-up posts from James Moore, either.
Is this some sort of sophomoric "humor"?
Good grief! look at all those newsgroups!

-John
--

John Minger <jaminge@pacbell.com> Interests: Genealogy, Amateur Radio
KE6DTC@K6VE.#SOCA.CA.USA.NOAM, TCP/IP: 44.16.1.240 - ke6dtc.ampr.org
---

1731. Re: want info on how to build a HF/6m Duplexer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-15 00:00:00 UTC
From: parf@aol.com
Message-ID: <4id22n$mvj@newsbf02.news.aol.com>
Source record: 106809

Hi Peter,

The last element in each of the filters that goes to the common port MUST be a series element AND the element will be capacitive on the 6M filter and inductive on the HF filter. This way the 6M filter presents a hi Z to HF and vice versa. Failure to recognize this will lead to squirrly response in both passbands.

73, Dale WA2YPY

1732. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: Bill Funk <skypilot@starlink.com>
Message-ID: <4id9ib$3sq@pegasus.starlink.com>
Source record: 106810
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

cjrobins@falcon.eag.unisysgsg.com (Clair Robinson) wrote:
>James Moore (moore@isd.upmc.edu) wrote:
>
>: GrandFather passed and left 2 garages full of stuff.
>
>: GrandMother wants rid of it.
>
>: If interested call 1 800 996-2971
>
>: Thank You
>
>
>Could you at least tell us what state its in?
==========
What do you wanna bet this is an ongoing commercial deal?
No descriptions, an 800 number...

--
Bill Funk - skypilot@starlink.com
ASCIi User Group - http://www.starlink.com:80/~ascii
User groups: More info than you can shake a CD at!
Try one near you!

1733. Re: Impedance matching

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <314AF328.71EC@netaxs.com>
Source record: 106811

Workshop wrote:
>
> Hi there
> This is to all those who know anything about impedance matching!
> I have a circuit using a ne602 ic.The input impedance is is quoted
> as bieng 1.5k.I have a Phillips application note (AN1993)
> that uses this ic.The input to the mixer of the ic is from a 50 ohm source.

> Can anyone out there tell me how these values are calculated.The frequency of interest
> is 45Mhz

This circuit is just a parallel resonant circuit with tapped capacitor
("capacitor divider") matching. The series combination of C1 and C2 must
resonate L at the frequency of interest. Also The impedance ratio from
Rin to Rout is roughly the square of the ratio of C2/C1 (the precise
ratio
is a bit more complex, but this estimate will get you pretty close).

The bandwidth of the circuit is a function of the loaded Q, which is
calculated
from:
QL= Rout/XL
where: XL = 2*PI*F*L

```
-----------------------
| |
| |
C1=47pf --- |
--- )
________| ) L Rout = 1500
Rin=50 | )
--- )
--- |
C2=220pf | |
| |
-------------------------------
```

In your example circuit, C2/C1=4.68.
4.68 squared=22, so this circuit will transform 50 ohms
up to about 1100 ohms. The inductance of L resonates the series
combination of C1 and C2 at about 48 MHz. The IC probably has
about 10 pf of internal capacitance which adds to the total
circuit C to reduce the resonant frequency to 45 MHz.

Joe
WA3CMQ

1734. Re: Home Brew GPS Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar16.134113.6738@ke4zv.atl.ga.us>
Source record: 106812

In article <5909@vk2esl.ampr.org> vk2esl@vk2esl.ampr.org writes:
>Hi.
>I have an ICOM GP22 GPS and with it the Magnetic base type
>antenna.
>The magnetic antenna is fine for mobile work but I have used
>the same antenna positioned up on the instrument panel of
>my aircraft with disastrous results to my compass, even though
>the antenna was situated about 500mm away from it!
>I was wondering is it possible to homebrew a small vertical type
>of antenna that I can mount with a suction cap to the windscreen
>of the aircraft?

Best I can determine, Icom doesn't include much technical info,
the remote is more than an antenna. It appears to be a complete
duplicate of the RF portion of the GPS unit. You'll note that
it communicates with the handheld unit via ordinary multiconductor
cable, not via coax suitable for 1.5 GHz. So you can't just replace
it with another antenna.

Looks like your options are to remove the magnet from the remote,
or just suction cup the GPS itself up on the dash and leave the
remote for use as it was intended. Or do what I did and buy a
Garmin. Its remote antenna only has a preamp in it, not an entire
receiver. If you use low loss coax (I use a short length of Andrew
Superflex), you can use just an antenna with it, the preamp is just
to overcome the loss of the RG-174 from the remote antenna to the
receiver (careful though, power is phantomed up the coax, the antenna
can't be a grounded plumbers delight, GPS antennas are usually of
patch construction, or quadrafilar helixes, but a 1/4-wave vertical
can work).

Another benefit of switching to the Garmin is that it's much
easier to use, and it tracks better when you are maneuvering.
The IC-22 sometimes loses position track when you do a 360,
and takes up to a minute to recover.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1735. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_826959501@rtfm.mit.edu>
Source record: 106813
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

1736. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: Dave Heil <k8mn@clinet.fi>
Message-ID: <314B378A.7BE5@clinet.fi>
Source record: 106814
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

Jack Harper wrote:
>
> In article <4i49qb$jpt@usenet.srv.cis.pitt.edu>, moore@isd.upmc.edu (James
> Moore) wrote:
>
> > GrandFather passed and left 2 garages full of stuff.
> >
> > GrandMother wants rid of it.
> >
> > If interested call 1 800 996-2971
> >
> > Thank You
>

Yep, Give old Grandma a buzz on her handy toll-free number. This is a
limited time offer so call today!

Dave OH2/K8MN

1737. Virtual Radio Museum

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: Robertson <zafod@ix.netcom.com>
Message-ID: <314B7627.74FA@ix.netcom.com>
Source record: 106815

Hi!

For anyone interested in the history of Radio, stop by my Virtual Radio Museum at:

http://www.geocities.com/Athens/1630/otr.html

The site is heavily enhanced with JavaScript and GIF animation, so bring your Netscape 2.0 and have fun!

-Lin/KJ6EF

1738. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: Gary Davidson <tech@thereporter.com>
Message-ID: <4idchp$pld@miwok.nbn.com>
Source record: 106816
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

ON the OTHER hand, it could have been a "dirty trick", where someone knowing the other guy's pager number listed what he KNEW would create an avalanche of phone calls to the poor sucker with the cell phone....

--
Gary... KJ6Q... I am the NRA | Annoy a Liberal - say NO to gun control!
========================== | Annoy a Democrat - say BYE BYE CLINTON!
Those who choose to "beat |==================================
their swords into plowshares"| "It's *EASY* to be a liberal, it's
may end up *PLOWING* for | OTHER people's money you are giving
those who DON'T! | away! (or living off of!)

1739. Re: Need Charger for Lead Acid Gel Cell Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: Tom Kreyche <tkreyche@well.com>
Message-ID: <4iem7u$f4j@nkosi.well.com>
Source record: 106817

I've built several chargers using the Unitrode chip, it's easy to use and great technology. Allied Electronics sells it for $6 or $7.....Tom KG6YJ

1740. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: jgramsey@aol.com
Message-ID: <4if700$eed@newsbf02.news.aol.com>
Source record: 106818

"Those were great times back then! New thread idea: remember
the International Rectifier B2M photocells?"

Ah-h-h, the ol' B2M photocell, I tried making an "electric eye" with the B2M and the CK722 (the deep drawn aluminum can version) the '722 was so leaky that I never could get the B2M's output to overcome the "load" I had to hang on the '722's base to drain away the leakage! I was 10 years old or so then. I finally used a CdS cell I got at Olson's on Main Street in Buffalo.

I also remember selecting out CK722's to find one that would oscillate at the high end of the AM broadcast band.

I've a few CK722's, 2N170's and even a Bell Telephone Labs Type 1A transistor - with these specs handwritten on the box:
Insertion gain 24 dB (freq = ??)
Emitter current: 1.1 mA
Collector current: 3.0 mA
Looks like the CK722's leakage wasn't too bad after all!
These goodies are in a box right next to my Intel 1103 and 4004! (yes, a box with Intel inside!)
Best regards to all, John Ramsey

Hank Riley, N1LTV
h1riley@umassd.edu

1741. WTB/T:4-400 Chimneys/Air Sockets

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: jami1@ix.netcom.com
Message-ID: <4idio0$r5j@dfw-ixnews1.ix.netcom.com>
Source record: 106819

I need a pair of Chimneys and sockets for 4-250/4-400's. Forward
condition and price.
F. 'Jamie' Jamison W5YSM/VK2AIX

1742. Re: Schematic for led blinker

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: drranu@holly.ACNS.ColoState.EDU
Message-ID: <4if6ia$22ea@yuma.ACNS.ColoState.EDU>
Source record: 106820

J. RAINS (RAINS@nku.EDU) wrote:

: I am looking for plans for an LED blinker. I have seen kits for this,
: but it sounds like something that I can build with parts from Radio Shack. Does
: anyone know how to build something like this? Text schematics are greatly
: appreciated.

Rat Shack has a simple 8 pin DIP IC that does just this, I think
it is $1.19. Just needs a capacitor to set the time constant and
a resistor I believe. It is a nice one since it lets you control the
flash rate and can be used for other things.
You could also use an astable multivibrator. Just bias two BJT's, then
set the time constant with some caps. I don't want to do the ASCII
schematic, email me if you want more info.

--
-Emarit, KG0CQ 73's drranu@holly.ColoState.EDU
Electrical Engineering, Colorado State Univeristy
Packet: KG0CQ@KF0UW.#NECO.USA.NOAM
All generalizations are bad. Censorship: ######
_·_ __· _____ _·_· __·_

1743. linear amplifiler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-16 00:00:00 UTC
From: py3iod@plug-in.com.br
Message-ID: <4ita5c$fah@bigbox.plug-in.com.br>
Source record: 106821

I make a linear to hf bands, and I used four 6KD6 tubes, with 1300V
and 1 amper. My tubes is now burred.
I want a new tubes and I think that I doubler the voltagem = 2800 V
and 0.5 ampers I can use a one 3 - 500 z tubes.
I ask by any especialist what do you think about my decision ?

1744. WSS: Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4ii127$bri@newsbf02.news.aol.com>
Source record: 106679

Wanted Surplus Source: New meters.

Triplett Model 227, 3 inch square, or similar models,
or similar Simpson or other quality brands.
DC, any ranges.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1745. WTB: Chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4ii14f$bso@newsbf02.news.aol.com>
Source record: 106680

Wanted to buy:

Ohmite P-300 parasitic chokes (for xmtrs).

These were made (I think) in the 40's or 50's.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1746. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: jbaltz@news.cs.columbia.edu
Message-ID: <4ii373$e1v@play.cs.columbia.edu>
Source record: 106681

In article <1996Mar17.170823.11460@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>Yes, thank you Matthew, but that just sidesteps the question.
>Momentum has the units of mass * velocity. If you concede momentum
>to the photon, then neither quantity can be zero.

Hardly. Resistance has units of length. When I talk about momentum, it has
units of inverse length. You can't prove anything about the photon by
looking at what units a particular measurement of it carries.

>Of course velocity isn't zero, by definition it is c. But mass
>is still left unaddressed. Rest mass of the photon is zero, again
>by definition, but a mass equivalence must be there in order for
>momentum to be non-zero. It is the derivation of that mass equivalence

You are hung up on this idea of mass equivalence. Physics thinks
differently. Photons simply carry momentum, like a travelling EM wave
carries momentum. Photons have no mass, no mass equivalent, *nothing*.
They are simply a measurement of a Fourier mode of an EM wave.

>Gary

//jbaltz
--
jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
jbaltz@cs.columbia.edu jbaltz@scisun.sci.ccny.cuny.edu KE3ML

1747. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: John Wilcox/NS1Z <ns1z@agate.net>
Message-ID: <314C5A8E.54C3@agate.net>
Source record: 106682
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

When I called this one today, Grandma had apparently had it disconnected.
So much for the bargains, guess they were all snapped up......
--
John Wilcox / NS1Z
INTERNET :204.117.6.48
ns1z@agate.net
Work :5018901@mcimail.com
TCP/IP :44.118.6.4
ns1z@ns1z.ampr.org
AX-25 :ns1z@kb1bsc.fn44rn.me.usa.noam

1748. Re: XR2211

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <314CC862.2A70@vertex.ucls.uchicago.edu>
Source record: 106683

victorg@barrancas.com wrote:
>
> I am looking to build a packet modem around the xr2211, I need a
> schematics for it and for tx too.
> Sorry, I don't speak english.
>
> Thanks.
>
> LU 6 ENCFor someone that doesn't speak english, the _English_ post is pretty intelligible...

73's
Isaac

1749. HELP: BOSCH HANDHELD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: mike spooner <mike@g4pfgmik.demon.co.uk>
Message-ID: <t5CnwAAfSDTxEwSn@g4pfgmik.demon.co.uk>
Source record: 106684
Cross-posted to: uk.radio.amateur,rec.radio.amateur.homebrew

Hi Reader,
Thanks for taking the time to read this. I am looking for info
like a service manaul or circuit diagram on a marine handheld,
BOSCH. HFG 164 Ex 25-1 THANKS

--
(****************************)
(mike@g4pfgmik.demon.co.uk)
(micky spooner 01379-852687)
(****************************)

1750. FS: RGB MONITORS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: mike spooner <mike@g4pfgmik.demon.co.uk>
Message-ID: <YJRqMEAQmDTxEwXy@g4pfgmik.demon.co.uk>
Source record: 106685
Cross-posted to: uk.radio.amateur,rec.radio.amateur.homebrew,demon.adverts,uk.forsale

```
For sale BARCO CD233 RGB monitors, analog rgbs, external or internal
sync, looped inputs,ttl compatible, frequency response 15 KHz to 15 MHz
14 inch, aspect ratio adjustable for 4/3, resolution hor 580 pixels
vert 430 pixel any other info needed drop me an E,
20 UKP + shipping
--
(****************************)
( mike@g4pfgmik.demon.co.uk )
( micky spooner 01379-852687 )
(****************************)
```

1751. FS: top band loop ant

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: mike spooner <mike@g4pfgmik.demon.co.uk>
Message-ID: <TZpoIKAxuDTxEwWv@g4pfgmik.demon.co.uk>
Source record: 106686
Cross-posted to: uk.radio.amateur,rec.radio.amateur.homebrew,demon.adverts,uk.forsale

FS: LOOP ANT FOR 160 MTS TOP BAND IN FULL WHEATHER PROOF BOX CAN BE
SEEN WORKING 50 UKP BUYER COLLECTS
--
(*****************************)
(mike@g4pfgmik.demon.co.uk)
(micky spooner 01379-852687)
(*****************************)

1752. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: rgawtry@timewave.com
Message-ID: <4ig5v5$hm8@cobra.Minn.Net>
Source record: 106687

In article <4i7ppq$r0m@nadine.teleport.com>,
w7el@teleport.com (Roy Lewallen) wrote:
>In article <826675019.19snx@wa8tzg.mi.org>,
> wwm@wa8tzg.mi.org (Bill Meahan) wrote:
>>In article <4i1vl3$o18@kirin.wwa.com> turtle@wwa.com writes:
>
>>Gee, I remember the CK722 as being made by Raytheon and in a silver
>>metal can that was of a rounded rectangular shape (kinda like a small
>>IF transformer) with three thin wire leads from a white insulator.
>> . . .
>
>Yep, Raytheon, and you've got the shape right. But they were blue. . .
>
>Roy Lewallen, W7EL, OF (don't ask)
>
> - who remembers when there were two available transistors, the CK722 (for
>$1) and CK721 (for $3). But $ were much bigger then. . .
The CK722 came in both an natural aluminum case and a blue case. I had one of each when I was in 8th grade. But I broke the leads on the blue one and don't have a clue where it or the other one went. When combined with a 1N34 diode they sure beat a chunk of galena and a cats' whisker in a crystal radio.. I still have the piece of galena!
73,
Randy Gawty, K0CBH

1753. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: rich@ardvark.com
Message-ID: <4ig8r8$qqu@news.dx.net>
Source record: 106688
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

moore@isd.upmc.edu (James Moore) wrote:

> GrandFather passed and left 2 garages full of stuff.

> GrandMother wants rid of it.

> If interested call 1 800 996-2971

> Thank You

i would like you to let me know if there is any left if so please let
me know i live in oregon but i would like to pay you and for shiping
so please let me knnow Rich

1754. Re: WWV radio clock decoding???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: artalto@aol.com
Message-ID: <4ig707$pkj@newsbf02.news.aol.com>
Source record: 106822

Also, see Don Lancaster's TTL Cookbook or CMOS Cookbook (I forget which one it's in) which were published in the mid-'70's. There's a schematic for a decoder, but not a receiver there.

Art N6VIG

1755. metal detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: "Irina N. Borisova" <bin@poisck.spb.su>
Message-ID: <ACnT7Jnmi8@poisck.spb.su>
Source record: 106823

I look for contacts with metal detectors and other searching
technique creators for information exchange.
M.
bin@poisck.spb.su

1756. Re: Schematic for led blinker

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4ii3i6$8ag@cc.iu.net>
Source record: 106824

i can never find my digi-key catalog when i need one..harumph.

i believe the absolute easiest way to do a blinking LED would be to get one with the blinker in the LED package. Litronix made these - i would think there'd be some volume of business for that to keep 'em around.

alternately, you could build up an oscillator using a nand or nor gate and an RC feedback network to set flash rate and have the LED connected to the output.

In <01I2DONYFROIDDYR12@NKU.EDU>, RAINS@nku.EDU (J. RAINS) writes:
>
> I am looking for plans for an LED blinker. I have seen kits for this,
>but it sounds like something that I can build with parts from Radio Shack. Does
>anyone know how to build something like this? Text schematics are greatly
>appreciated.
>
>Justin Rains AA9KM
>rains@nku.edu
>

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

1757. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: dnorris@k7no.com
Message-ID: <4ii02u$rp6@news.syspac.com>
Source record: 106825
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

khamer@axionet.com (Ken Hamer) wrote:

>> In article <4i49qb$jpt@usenet.srv.cis.pitt.edu>, moore@isd.upmc.edu
>(James Moore) wrote:
>>

>> > If interested call 1 800 996-2971
>> >
>> > Thank You

>Out of curiousity, to find out just what the scam was, I called the
>number. However, it is out of service. Bizarre!

The death of a loved one, particularly a member of the plant family
can really mess up one's mind. BUT...he sure generated a bunch of
bandwidth. {$->

cdn

1758. HF, multiband antenna, etc. for beginner -- PLEASE HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <314CC3D3.347D@vertex.ucls.uchicago.edu>
Source record: 106826
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equpiment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Greetings all,
I am new to the world of ham radio (don't even have my license yet), and I'm working on setting up a station. I'm gonna need an antenna to work at least the entire HF range, and maybe thru 2m. I live on the second floor of a 2-flat, and space outside is limited... I've been figuring I'd put up a loop around my ceiling (approx. 12'x12') or on one wall (similar dimensions), use a transmatch, and hope for the best. Maybe someone out there has a better idea... It would be convenient if there were a way I could wire something up in my room or (for lower frequencies) outside my window... It may not be practical to raise anything up above the top of the building -- will this affect propagation in the HF range?? I _may_ be able to find a way to set up a horizontal dipole that is supported a few inches above the edge of the roof, so that obstructions are less of a problem. Anyone have any suggestions?? Also, I will need plans for a versatile, INEXPENSIVE Transmatch. I can probably tolerate somewhat high levels of SWR, if it will reduce design cost. Is it feasible to wire several toroid-core broadband transformers, and switch them in and out appropriately for each band?? I'd like not to have to retune the antenna every time I switch bands, and if I could have a knob that did that it would be quite nice..... PLEASE RESPOND (pref. by E-mail or E-mail+post) IF YOU CAN ANSWER ANY OF MY IGNORANT QUESTIONS!!! Thanks a lot everybody.

73's
Isaac Kohn

P.S. I actually am doing things in the wrong order, as I haven't built any sort of equipment that would utilize an antenna yet. If anyone has any diagrams/ideas for a receiver, and maybe a transmitter, that I could use for phone (at least AM, SSB would be nice), they would be much appreciated. Receiver might just be antenna, tank circuit shunting unwanted stuff to ground, single-diode detector, and high-gain AF AMP. This is good because I've already built a 1W output AF AMP, and it works great. Xmitter is tough because I only want to use one oscillator, but I want to span entire HF range. Prob. with both is switching components in tuned circuits for different bands.... Help is much appreciated. As you can see I am very unexperienced and am dying to get on the air. Thx again in advance!

1759. NDN: Ham-Homebrew Digest V96 #115

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: Post_Office@BayNetworks.COM
Message-ID: <1769078782.8003063@BayNetworks.com>
Source record: 106827

Sorry. Your message could not be delivered to:

Leslie Dodd,Wellfleet London (Mailbox has been deleted. Try re-entering the address.)

1760. NDN: Ham-Homebrew Digest V96 #116

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-17 00:00:00 UTC
From: Post_Office@BayNetworks.COM
Message-ID: <1769070525.10009585@BayNetworks.com>
Source record: 106828

Sorry. Your message could not be delivered to:

Leslie Dodd,Wellfleet London (Mailbox has been deleted. Try re-entering the address.)

1761. Re: Help needed. Yeasu FT-411 hack

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: j-macfar@uwe.ac.uk
Message-ID: <1996Mar18.161050.2412@pat.uwe.ac.uk>
Source record: 106689

Thanks for all the replies I received via e-mail concerning increasing the frequency range of a Yaesu FT-411.

It looks like you have to press the up and down buttons together while turning on the power. Unfortunately, this didn't work on my rig for some reason. So I went inside the rig to do the hardware varsion of this which involves changing some of the internal jumper settings.
Information on how to do this(and lots of other stuff) can be found at ftp oak.oakland.edu in the directory: pub/hamradio/mods/yeasu. This site has lots of other cool ham stuff aswell.

Anyway, I can now tune 130-185 MHz (although my rig is pretty dead at frequencies over about 147 MHz. This could be because its a UK version. Our 2m badn only goes 144-146. I belive in the States this is 144-148MHz. My main reason for doing this mod is for when I use my 2m rig with a Microwave Modules 2m-70cm transverter - the 432 MHz band is much bigger than the previously limited 2MHz range of my transceiver.

Thanks again,
James.

James Macfarlane G7NOY, Faculty of Engineering, University of West of England, Bristol. j-macfar@uwe.ac.uk URL: http://www.gbnet.net/orgs/aspire
Opinions expressed are my own, not those of my employer, etc, etc.

I was told and I forgot. I saw and I remembered. I did and I understood.

1762. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <314D7CC2.F6B@vertex.ucls.uchicago.edu>
Source record: 106690

Andy Walton wrote:
>
> Try Protel Easytrax, available from Simtel.
> Regards, Andy VK3CAHCan someone provide a URL?? I looked around on the SimTel archives, but
couldn't find it. http or ftp I don't really care. Thx alot.

73's
Isaac

1763. Ten-Tec 1220 2m FM xcvr kit -- anyone built it yet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4ikc9k$a0r@mksrv1.dseg.ti.com>
Source record: 106691

I was wondering if anyone else had bought and built
the Ten-Tec 1220 2m FM transceiver kit yet. I was
apparently one of the first to get one. I built it
a few weeks ago, but I don't have it working yet.

Construction was quite easy. The manual was pretty
good, especially by today's kit-manual standards.
Only one missing part (a common 1/4-Watt resistor),
no mis-marked parts, no damaged parts, everything
fit where it was supposed to. Very nice quality
PC board: double-sided, solder-plated, plated-thru
holes, lacquer-masked, silk-screened. Wow!

Alignment was a breeze. Receiver works fine (but
it's not real selective and is subject to overload
from high-power commercial services and pagers).

I am getting no RF output from the PA, although I
can hear the transmitter signal, on-frequency, on
another 2m rig or handheld loud and clear. There
is obviously something "dead" in the transmitter
chain after the last mixer. I'll eventually find
the problem (haven't had time to look into it).

The 1222 amplifier module is built, but not tested
yet because no drive from the transceiver yet.

Has anyone else been-here-done-this yet? Respond
here on the newsgroup, as I'm sure inquiring minds
want to know!

73 from Texas! Dean, KC5NG

1764. fuses vs. circuit breakers vs. polyswitch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: Tom Kreyche <tkreyche@well.com>
Message-ID: <4ik0es$5kb@nkosi.well.com>
Source record: 106692

I'm rewiring my sailplane and am trying to figure out how to protect the electrical system.

It has two 8 AH 12v gel cells, no charging system, a few low current instruments (a couple hundred mA) and a radio which draws an amp or so on tx.

None of electronics are critical to aircraft operation so the primary goals are: prevention of short circuit induced fires and instrument protection. The instruments need to run as long as possible while the batteries discharge.

Circuit breakers appear to have a voltage drop of about 1.5 v which minimizes useful battery life, so it appears to be a bad option for a system which isn't charging continuously. Fuses would be difficult to change in flight but have obvious advantages of little voltage drop, cheap, etc.

My plan is to fuse both + and - on the batteries as close to terminals as possible, use fairly high value fuses to protect against shorts, say 10 or 20 amps. They can't be changed in flight, but if one blows, I can switch to the other battery.

The next question is what to do about individual instruments. Nothing? or fuse each one? or put Raychem PolySwitches on each one? They're listed in Digi-Key, are cheap and have minimal resistance.

Any suggestions?

Thanks, Tom KG6YJ

1765. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4ikkhp$1sd@nntp.Stanford.EDU>
Source record: 106693

In article <314D7CC2.F6B@vertex.ucls.uchicago.edu> Isaac Kohn
<ikohn@vertex.ucls.uchicago.edu> writes:
>Andy Walton wrote:
>>
>> Try Protel Easytrax, available from Simtel.
>> Regards, Andy VK3CAHCan someone provide a URL?? I looked around on the SimTel archives,
but
>couldn't find it. http or ftp I don't really care. Thx alot.
>
>73's
>Isaac
>
>
You can also get Easytrax from the Protel page: http://www.protel.com

Steve M. WF6R

1766. Re: WWV radio clock decoding???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: "Mr. Brooke Clarke" <brooke@pacific.net>
Message-ID: <314E1939.36AC@pacific.net>
Source record: 106694

William W Janssen wrote:
>
> nickb@alpine (Nicholas Barbieri) wrote:
> >Does anybody know how radio clocks like the Heath Most Accurate Clock
> >decode the WWV signals?

Although Heathkit no longer is in the general kit business, they are still in the education business. One of their products is an updated version of the GC-1000 along with a remote clock that is driven from it. I forget if they are available as kits, but I expect that the manuals are available.

Have Fun,
Brooke

1767. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: bigjon1@ix.netcom.com
Message-ID: <4ik6j2$rdb@dfw-ixnews1.ix.netcom.com>
Source record: 106695
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

In <314b26a9.10630201@news.efn.org> dhughes@efn.org (Dick Hughes)
writes:
>
>moore@isd.upmc.edu (James Moore) wrote:
>
>>
>> GrandFather passed and left 2 garages full of stuff.
>>
>> GrandMother wants rid of it.
>>
>> If interested call 1 800 996-2971
>>
>> Thank You
>>
>
>I noticed this same post in rec.motorcycles. Must have a lot of
>stuff! I think he is playing with us.
>
>Dick Hughes

I think the CLUE here is 1-800....."Sure I'm gonna pay for a 1-800
service so I can sell my grandfathers junk"....To heck with a YARD SALE
that would'nt cost a dime!

1768. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: bennett@cis.ufl.edu
Message-ID: <4ik5tt$fuf@no-names.nerdc.ufl.edu>
Source record: 106696

Ah yes, the CK722. Somewhere I still have a bunch of the plastic case ones stashed away. BTW I think it was Raytheon that also had an Experimenters Manual for that transistor. I still have one of those manuals somewhere.
Paul Bennett
N4EGO

1769. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: Danny Banister <ddb1@msg.ti.com>
Message-ID: <314E2A04.622B@msg.ti.com>
Source record: 106697
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

```
Jon Shay wrote:
>
> In <314b26a9.10630201@news.efn.org> dhughes@efn.org (Dick Hughes)
> writes:
> >
> >moore@isd.upmc.edu (James Moore) wrote:
> >
> >>
> >> GrandFather passed and left 2 garages full of stuff.
> >>
> >> GrandMother wants rid of it.
> >>
> >> If interested call 1 800 996-2971
> >>
> >> Thank You
> >>
> >
> >I noticed this same post in rec.motorcycles. Must have a lot of
> >stuff! I think he is playing with us.
> >
> >Dick Hughes
>
> I think the CLUE here is 1-800......"Sure I'm gonna pay for a 1-800
> service so I can sell my grandfathers junk"....To heck with a YARD SALE
> that would'nt cost a dime!

It figures ---- I tried this number tonight & a recording says it's not
in service!

Danny
--
```

1770. CB to 10m Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: Shelby Merrick <smerrick@som-uky.campus.mci.net>
Message-ID: <314E38D5.156F@som-uky.campus.mci.net>
Source record: 106698

Does anyone have some pointers on modifying a cb for 10m output? Would one have to use transverters of some sort, or could you tune the radio internally down to 10m? I have a couple of rat shack 11m good for nothing cb's laying around and need a use for them. Thanx in advance.

73's
KE4AKA
Shelby

1771. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4ijjri$ma2@tempo.univ-lyon1.fr>
Source record: 106699

Dana Myers (myers@West.Sun.COM) wrote:

: I recall the NE602 has a very poor IP3, like -15dBm, though it
: has a bunch of gain. I personally wouldn't use one in a front
: end without a very, very selective front end filter. If you
: insert most of the selectivity between the pre-amp and the mixer,
: you can maintain a decent NF...

Hmmm... That's true of course. Well, I can also use a mixer made
by MiniCircuits. They work well, I think.

By the way, if I use a 10 dB pre-amp gain, with noise figure < 1 dB,
- 15 dBm shall translate at the real input as -25 dBm.
Now, what source could produce -25 dBm. Let us see :
P(r) = P(e) * l^2 / (2 * pi * R)^2, no ?
That is log Pr = log Pe + 2 log l / (2 * pi * R)
Setting log Pr as -2.5 , log Pe as +5 (100 W dBm), l = 6 m
assuming 2 * pi = 6 (roughly), we get -7.5 = 2 log 1/R or log R = 4
R = 10 km... Mmmm... quite remote :-(

Maybe the NE 602 is not such a good choice :-) Unless I made a mistake !

Vincent

--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1772. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: gene_heskett@wvlink.mpl.com
Message-ID: <3502.6651T567T2474@wvlink.mpl.com>
Source record: 106700

[After snipping quite a bit here]
Jack WB3U said

W> or loss of contact between mechanical connections. I'm not even sure
W> high-power RF switch contacts really benefit much from silver plating
W> as opposed to other metals, especially considering that they tend to
W> be self-cleaning. Many tin alloys oxidize slowly and can provide a
W> wear surface as good or better than silver.

I should jump in here and comment that the relative merits of copper vs silver go well beyond the quality of the contact. Copper, for instance, has this nasty habit of arcing (your self-cleaning) under higher powers and thereby welding it together hard enough that your usually large enough switching solenoids, designed to do the switch in 10 milliseconds, sized and powered accordingly, will be utterly destroyed in 500 millseconds due to the welded contacts. SOLID silver, such as Zenith (the power switch folks, not the tv ones) used in 1" square by about 1/8" thickness in their 600+ amp switches, suffer no such effects.

We're talking normal 60 hz power switches here, but for rf at the power levels I deal with, the situation doesn't change that much. We still use silver plated bullets in our transmission line joints. The plating there is over brass for its spring action, and it plugs into the inner copper conductor with many pounds of force. Once the silver is gone from thermal expansion wear, then they start trying to weld a connection. Its rather like waiting for the 'other shoe' to fall if those lines are over 20 years old and the silver is long since worn away. In doing repairs, I've seen bullets with 1/8" globs of copper burned into them, and of course inches missing from the end of the inner conductor. Messy to clean up, and obviously expen$ive.

Tin or solder btw is a very poor materiel IMH unless you are willing to exersize the joint often enough to keep it clean of surface oxides. To do that has been a pain in my butt, and even then has required a semi-annual re-application just to replace the oxidized, blackened surface with fresh clean stuffs. In a card edge situation, the sockets contacts more than likely won't have enough bite to keep it cut thru the oxides. I think the word for a good connection over time is 'gas tight'. This requires the sort of pressures applied by a good crimping tool such as a Kings, AMP's better ones or T&B's.

Failing that, the card edge only becomes a good connection over a long period of time when both the finger pattern on the card, and the sockets contacts are gold flashed. A microns worth is usually fine.

My transmitter, a 35 year old GE, has nearly everything silver plated that has to do with the tuning. I don't tune it very often, and then usually only to restore the tuning that changing brands of tubes in that socket requires. Those chinese 4cx250b's that are all over the place now have lots more C than the eimacs. Treated right, they also outlast them by 3/1! When I say treated right, my visual final has been in that socket for 6 years! Its water cooled, and has been out of the socket once to change a base gasket in that time. Barring a major accident with it, it might well be there yet in 2002 when I retire.

Just a broadcasters $.02 worth. Cheers All

/* Gene Heskett | These opinions are NOT to be */
/* CE @ WDTV Weston/Clarksburg WV | confused with the official */
/* <gene_heskett@wvlink.mpl.com> | WDTV managment views */
#include <std.disclaimer>

1773. Re: Need Charger for Lead Acid Gel Cell Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: j-macfar@uwe.ac.uk
Message-ID: <1996Mar18.110322.1948@pat.uwe.ac.uk>
Source record: 106701

In article <4i1e7p$9f0@newsbf02.news.aol.com>, dabloodgod@aol.com (DABLOODGOD) says:
>
>I bought one of these at a swap meet last month, and now I need a charger
>for it - Its the size of a large car battery - so the small RC plane model
>Ive seen wont really provide enough current. The battery name plate
>describes 2 voltages - 14.2 to 14.4 volts for charging and 13.6-13.8 volts
>for trickle charging (these voltages are approximate) The key thing is
>that the charger is supposed to have 2 modes - 2 voltages and be able to
>switch between them when appropriate. I saw a article in a newsprint
>magazine (World Radio Times ?) last month, Unfortunately, Ive recently
>moved and trashed the magazine, before I realized that I needed the
>article.

Don't have the mag I'm afraid, but I believe that to charge a Sealed
Lead Acid (Gel) battery you need a constant voltage charger with current
limit.

Which one of the two different voltage ranges you use depends on what you
plan to use the battery for. The charger doesn't have to switch between
them automatically. You simply decide the appropriate one and use that.
You charge at the higher voltage (14.2-14.4) if you use the battery
cyclicly (ie heavy discharge followed by charge). You use the lower charge
voltage (13.6-13.8) if you use the battery for standby use, ie it stays on
trickle charge nearly all the time except the odd occasion when you need
to use it (eg when the mains power fails). Also, for gel lead acids, the
charger should limit the maximum current that can flow to about 1/4 of the
battery's Ah rating.

Bearing this in mind, you could temporarily use a bench power supply as
a charger or modify a bench PSU article from another magazine ?

Hope this helps,
James.

James Macfarlane, Faculty of Engineering, University of West of England,
Bristol. Callsign: GYNOY E-mail: j-macfar@uwe.ac.uk
http://www.gbnet.net/orgs/aspire
Opinions expressed are my own, not those of my employer, etc, etc.

I was told and I forgot. I saw and I remembered. I did and I understood.

1774. HAL Morse Keyboard ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: scottwh@netcom.com
Message-ID: <scottwhDoHHHC.F12@netcom.com>
Source record: 106702
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In 1973, HAL Communications Corp. sold an MKB-1 Morse Keyboard and a KB-ID1 Keyboard Identifier. Does anyone remember these devices?

After building them from kits, they worked well. Recently I tried to change the call sign in the Identifier without success. There appears to be a race problem in the design.

Does anyone remember these devices? -The problem that makes the Identifier pattern sensitive? -A fix?

73,
Scott
KI6KW

1775. Re: Canadian regs on FM transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: buydens@duke.usask.ca
Message-ID: <4iknd8$ess@tribune.usask.ca>
Source record: 106703

I have a web page

http://www.usask.ca/~buydens/ham

that contains a link to Dino Moriello's page. He has a link to the Canadian
regulations for hams. Hope this helps.

Brian.

Brian McMahon (mcmahon@cad.uccb.ns.ca) wrote:
: I just sent for a fm transmitter (Ramsey FM-10A, $35!) which I want
: to use to distribute stereo throughout the house and yard. With the
: proper antenna I was told it could potentially broadcast up to a mile
: - the kids are gona love this! So, I started trolling the internet to
: see just what the candian regulations are on fm transmissions but so
: far I came up empty. Can anyone here point me in the right direction?
: And, by the way, is this the right group to ask? I'll check back, but
: e-mail is better since I'm not a regular. Thanks for any help.

--
Brian Buydens There was a young poet named Dan,
Department of Computing Services Whose poetry never would scan.
University of Saskatchewan When told this was so,
email: Brian.Buydens@usask.ca He said, "Yes, I know.
VE5RDV

1776. Re: E.F. Johnson Messenger C.B.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: nadzam@garlic.com
Message-ID: <4iig7h$gic_005@nadzam.garlic.com>
Source record: 106704

In article <Do7D29.6z7@eskimo.com>, wizard@eskimo.com (Technofreak) wrote:
>Does anybody know where I can find the allignment procedures and/or
>schematic to the Johnson Messenger model 4730 C.B.
>

Sure, I work on these things too. That radio is covered in good
detail in the Sam's Photo Fact CB-287.

Call them at 1-800-428-7276. They will be happy to make you a
very good copy! Hold onto your wallet, it's gonna cost you
abou $35.

Name: Bill.Nadzam "K8WN"
E-mail: "Bill Nadzam" <nadzam@garlic.com>

1777. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDoIwAw.3B6@netcom.com>
Source record: 106705
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

in <314b26a9.10630201@news.efn.org>, Dick Hughes wrote:
: moore@isd.upmc.edu (James Moore) wrote:
: > GrandFather passed and left 2 garages full of stuff.
: > GrandMother wants rid of it.
: > If interested call 1 800 996-2971
: > Thank You

: I noticed this same post in rec.motorcycles. Must have a lot of
: stuff! I think he is playing with us.

How many grandmothers do you know with 800 phone lines?

Worse than playing. Sounds like indirect harrassment of some
commercial entity. Stick them with a bunch of useless phone
calls that they have to pay for. And using newsgroups with a
large audience of collectors, bargain hunters, and wheeler-dealer
types that are guaranteed to call and leaving out any description
of the goods is pretty firm evidence.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1778. Re: 144.955 MHz AM receiver schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4ikqpu$5a8@cloner4.netcom.com>
Source record: 106706

In <3147B4B3.680E@cris.com> Cliff Soderback <Cliff-s@cris.com> writes:
>
>Ron Gunn wrote:
>>
>> I need to build an AM receiver that can tune 144.955 MHz. Anybody
know
>> where a schematic for such a beast can be found?
>>
>> Thanks in advance for any help at all.
>>
>> --
>> ---------------------------------------
>> Ron Gunn
>> email: rgunn@teclink.net
>> npage: http://home.teclink.net/~rgunn/
>> ---------------------------------------
>
> 144.955 is in the middle of the 2 meter Ham band and only
>FM is used on this freq. If you have some other use for a
>receiver I would suggest any used scanner. They are cheap
>and will cover a large number of frequencies.
>
> Cliff, W7VVA

Not true, the frequencys from 144.100 to 148.000 MHz
are allocated for CW, Voice, SSTV, FAX, and RTTY. With
144.000 to 144.100 MHz for CW only.

P.S 146.000 MHz is the middle of the 2m band.

Mr. Gunn, You should peruse the local hamfests, an old 2m AM rig can
usually be had for a song (and about $30 - $40)

Tim, ka8ddz

Cliff
---- The above comment is not intended to offend ----

1779. NDN: Ham-Homebrew Digest V96 #117

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: Post_Office@BayNetworks.COM
Message-ID: <1769078782.13444472@BayNetworks.com>
Source record: 106707

Sorry. Your message could not be delivered to:

Leslie Dodd,Wellfleet London (Mailbox has been deleted. Try re-entering the address.)

1780. Re: Need Radio Clock Info.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-18 00:00:00 UTC
From: tvignaud@worldnet.fr
Message-ID: <4ikl42$8il@aldebaran.sct.fr>
Source record: 106708
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave

In article <4hl1tj$90r$1@mhade.production.compuserve.com>, 100654.646@CompuServe.COM says...
>
>I need any information I can get in
>reguards to the radio signals sent from Germany
>across Europe giving time information for
>Radio Clocks.
>
>Thanks,
>
>Parker Kent

The time signal from germany is DCF 77, broadcasting on longwaves 77,5 kHz
but I have not other technicals informations about coding. But I have
informations concerning time signals send by the longwave transmitter
(France Inter) on 162 kHz from Allouis (France).

Regards
--
Thierry VIGNAUD - tvignaud@worldnet.fr
Boulogne-Billancourt (France)

1781. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: john.dilks@academia.com
Message-ID: <8BD034C.04110017F6.uuout@academia.com>
Source record: 106579

-> - who remembers when there were two available transistors, the CK722
-> (for $1) and CK721 (for $3). But $ were much bigger then. . .

Roy and All.....

I remember spending $3.95 for a diode radio kit and an additional $4.95
fo one CK-722 transistor to make a one transistor shirt-pocket radio
back in 1956. I wore a crystal hearing aid type earphone, pocket
radio to English Class and listened to the World Series. When ordered,
the CK-722 was backordered due to demand! I think the kit was
advertised in Radio News back then. BTW= I told my teacher I was hard
of hearing. That worked the first day, but I talked too much and she
found out..... Got'a bid "D"etention. But hey, I was the first
person in Atlantic City High School with a transistor radio!

73' John Dilks, K2TQN <Radio Collector>

1782. Re: 144.955 MHz AM receiver schematic needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: tomz@premier1.net
Message-ID: <DoHMqI.4BM@data-io.com>
Source record: 106580

In article <3147B4B3.680E@cris.com>, Cliff-s@cris.com says...

> 144.955 is in the middle of the 2 meter Ham band and only

>FM is used on this freq. If you have some other use for a
>receiver I would suggest any used scanner. They are cheap
>and will cover a large number of frequencies.
>
> Cliff, W7VVA

You may want to rethink this one. There are other modes allowed on 2M,
SSB and CW are used quite a bit in that band.

1783. Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4im80h$h61@tempo.univ-lyon1.fr>
Source record: 106709

Hi, that's me again :-)
(BTW, shall I say : it is me or it is I ?)

Anyhow.
I have here some FET data sheets where they give as a noise parameter
the "Equivalent input noise voltage" in nV/sqrt(Hz).

I can't locate the paper where I had written the formula to convert this
parameter into more traditional NF in dB.

Can someone help me ? (If I remember, NF was also depending on the noise
current). By the way, it is given @ 100 Hz, so I suppose we are speaking
about flicker noise here. Is there any way to guess NF at, let's say,
50 MHz ?

THX,
Vincent
--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1784. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4im4s0$d6a@tempo.univ-lyon1.fr>
Source record: 106710

Dana Myers (myers@West.Sun.COM) wrote:

: >Hmmm... That's true of course. Well, I can also use a mixer made
: >by MiniCircuits. They work well, I think.

: That's what I would choose. I'd start out by designing the front
: end amplifier for a few more dB of gain than the mixer loss, and
: terminate the mixer in another common-gate FET with moderate
: gain, followed by the crystal roofing filter. This kind of
: arrangement works really well in the few radios I've seen use
: it.

Common gate at 50 MHz ?
I cannot use a XTAL filter, since I have only a 30 MHz XTAL that
transposes 50 to 20. But I think I am going to design some kind
of elliptic low-pass filter to filter out 30 and 80 MHz.

Thank you for the advice.

Vince

PS : Regarding FET noise, the BF 256 is given as NF=0.8 dB f < 100 MHz.
There is also the double-gate BF 998 with NF = 0.7 @ 200 MHz... and the
CAG capability !

--
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1785. Re: CB to 10m Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: bry2@usa.pipeline.com
Message-ID: <4im97u$om5@news1.h1.usa.pipeline.com>
Source record: 106711

On Mar 18, 1996 23:32:21 in article <CB to 10m Conversion>, 'Shelby Merrick <smerrick@som-uky.campus.mci.net>' wrote:

>Does anyone have some pointers on modifying a cb for 10m output? Would
>one have to use transverters of some sort, or could you tune the radio
>internally down to 10m? I have a couple of rat shack 11m good for
>nothing cb's laying around and need a use for them. Thanx in advance.
>
>73's
>KE4AKA
>Shelby

Hi Shelby - you will probably find info about this from some of the suppliers of kits and parts listed in my public domain file MEGALIST.TXT - it's alist of suppliers all over. You can find it many places including these:

Updated copies downloadable from BBSes at:
(301) 681-7782, (301) 942-2218, (301) 299-3292, (301) 563-1306
(301) 417-6952, (202) 619-1494, (202) 208-7679, (301) 933-8251

FTP site is at ftp.Lehigh.EDU. Login as anonymous, and use your e-mail address as the password.
FTP: ftp://ftp.lehigh.edu/pub/listserv/qrp-l/misc/megalist.txt
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
WWW: http://www.nd.edu/~shideg/

DOWNLOAD as MEGALIST.ZIP or individually as:
megalist.txt
manuals.txt
dealers.txt
tubes.txt
xtals.txt
========

--
Bry in Gaithersburg, MD near DC
*** Use ONLY: ****
Bry2@usa.pipeline.com.us
in your reply "TO" line!!!!
Keep in touch!- AF4K

1786. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <4imsk2$qoa@chnews.ch.intel.com>
Source record: 106712

w7el@teleport.com (Roy Lewallen) wrote:
> - who remembers when there were two available transistors, the CK722 (for
>$1) and CK721 (for $3). But $ were much bigger then. . .

I remember when CK722s were much more expensive around 1956. They gave
us a few in electronics lab at Texas A&M. Took us about 2 minutes to
blow them all to smithereens. The prof was extremely upset and we all
decided that transistors were a temporary fad and would never compete
with tubes.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

1787. help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: roze6216@mach1.wlu.ca
Message-ID: <DoJ286.68C@info.uucp>
Source record: 106713

Is there somewhere I can learn the basics of electronics enough to be
able to bulid from schematics? (i.e; some kind of basic, simple 'how to'
home page or something like that?)

thanks!

Matias
p.s plrease e-mail your response as my newsgroup access is irregular due
to circumstances beyond my control.

1788. Re: HTX-212 & MFJ-1270C TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: burch@netline.net
Message-ID: <4in2vm$jdh@tesla.netline.net>
Source record: 106714
Cross-posted to:
de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Brian Webb <102670.1206@CompuServe.COM> wrote:

>Several weeks ago I purchased a Radio Shack HTX-212 mobile
>2-meter radio. I own an MFJ-1270C TNC. What I'd like to do is
>hook these two units together so I can operate on packet.

>Here are some questions:

>1. Does anybody sell a pre-made HTX-212 to MFJ-1270C interface
>cable?

>2. If I have to make my own cable, does anybody have a schematic?

>3. Where can I buy an extra modular mic plug of the type used on
>the HTX-212?

>4. Have any of you interfaced these rigs and gotten them to work?
>If so, is there anything that I should know?

>Regards,

>Brian Webb, KD6NRP
>Thousand Oaks, CA

I have the same radio and TNC. I had to make my own cable. If you
call MFJ they will mail you a schematic. I think the parts costs
under $5.

1789. FR-146 FM Receiver Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: Dave Bremer <bremer@orion.ee.stcloud.msus.edu>
Message-ID: <314F1727.6CD3@orion.ee.stcloud.msus.edu>
Source record: 106715
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

My partner and I are using the Ramsey FR-146 2-Meter FM receiver kit to receive data broadcast at a frequency of 155.445 MHz. The data is sent with a 6 second delay between each new message. We are having trouble squelching out the noise during the 6 second delay period. The squelch seems to either cut out nothing or it cuts out everything including the data being broadcast. If anyone has any information regarding this kit or where we could receive help, we would appreciate hearing about it. Please e-mail any comments or suggestions.

Thanks.

Dave Bremer
St. Cloud State University
Electrical Engineering
bremer@orion.ee.stcloud.msus.edu

1790. Re: Schematic for led blinker

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: mclendon@ix.netcom.com
Message-ID: <4imblv$74c@ixnews3.ix.netcom.com>
Source record: 106716

Try the LM3909 IC - lets you blink an LED for years off of a 1.5 volt
battery. We used to use lots of these to put LEDs in cow skulls - why?
tt is a long story...

73 - Mike KE4END

In <4ii3i6$8ag@cc.iu.net> wnewkirk@iu.net (Bill Newkirk) writes:
>
>i can never find my digi-key catalog when i need one..harumph.
>
>i believe the absolute easiest way to do a blinking LED would be to
get one
>with the blinker in the LED package. Litronix made these - i would
think there'd
>be some volume of business for that to keep 'em around.
>
>alternately, you could build up an oscillator using a nand or nor gate
and an
>RC feedback network to set flash rate and have the LED connected to
the output.
>
>In <01I2DONYFROIDDYR12@NKU.EDU>, RAINS@nku.EDU (J. RAINS) writes:
>>
>> I am looking for plans for an LED blinker. I have seen kits for
this,
>>but it sounds like something that I can build with parts from Radio
Shack. Does
>>anyone know how to build something like this? Text schematics are
greatly
>>appreciated.
>>
>>Justin Rains AA9KM
>>rains@nku.edu
>>
>
>
>Bill Newkirk WB9IVR The Space Coast Amateur Technical
Group
>Melbourne, FL duty now for the future of amateur
radio
>Lombardi's 1st Law of Business:
>Companies succeed in spite of their best effort. If they succeed at
all.
>

1791. Re: Schematic for led blinker

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: "Mr. Brooke Clarke" <brooke@pacific.net>
Message-ID: <314EE64C.2A85@pacific.net>
Source record: 106717

I like the 3909 (RS 276-1705) blinker because it runs on a single 1.5 Volt battery and goes for many years and uses only 4 parts. I think this is the chip used in the flashlights on the airlines that have a blinking LED. I read that this circuit seems to extend the shelf life of batteries???

LED
1.5 V battery
cap about 300 microfarad
3909 chip

Connect 3909 as follows:
Pin 1 to pin 8 & cap - lead
pin 2 to cap + lead
pin 3 no connection
pin 4 to battery -
pin 5 to battery +
pin 6 to LED cathode
pin 7 no connection
pin 8 to LED cathode and pin 1

Have Fun,
Brooke

1792. Re: XR2211

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: "Mr. Brooke Clarke" <brooke@pacific.net>
Message-ID: <314EE718.48B@pacific.net>
Source record: 106718

>
> victorg@barrancas.com wrote:
> >
> > I am looking to build a packet modem around the xr2211, ...

Try:

http://nis-www.lanl.gov/~jdport/images/modem.gif

Have Fun,
Brooke
N6GCE

1793. NDN: Ham-Homebrew Digest V96 #119

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: Post_Office@BayNetworks.COM
Message-ID: <1769078782.4080388@BayNetworks.com>
Source record: 106719

Sorry. Your message could not be delivered to:

Leslie Dodd,Wellfleet London (Mailbox has been deleted. Try re-entering the address.)

1794. Re: lightning detector, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: nickb@alpine
Message-ID: <4imti2$snp@spock.asic.sc.ti.com>
Source record: 106720

: >very simple RDF system will give reliable results over thousands of
: >miles of ocean. The 'Sferics detectors were simple shielded loop
: >antennas, one oriented N-S and the other E-W, tuned to resonance at
: >10-KHz. Each developed a signal that was amplified by a three-stage
: >amplifier and the raw 10-KHz. outputs were put on the vertical and
: >horizontal plates, respectively, of a CRT. A distant static crash would
: >cause a diagonal line to appear on the scope at an angle equal to the
: >azimuth, to a high degree of accuracy.

I saw a Discovery Channel program that says the researchers use 8 KHz.
Apparently, the US Forest Service monitors lightning strikes to get a
head start on forest fires. Maybe it's correlated with satellite photos?

--
Nick Barbieri
Texas Instruments
ASIC Engineering
email: nlb1@ti.com

1795. RF from TV's??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4il58s$h3m@peabody.colorado.edu>
Source record: 106721

From elendir@enst.fr Fri Mar 15 10:46:20 MST 1996

Dave Curtis (david_b_curtis@ccm.sc.intel.com) wrote:
: Always one to avoid gratuitous mathematics, I believe all the quantum
: physics one needs to know about antennas is:
: "Accelerate an electron, get a photon. It's the law."

>Well. It's not that simple. Otherwise the simple cathodic display you
>are using would be a formidable source of RF energy !!!!! You get a
>photon when you use alternative current.

>Vincent.

You also get photons when you accelerate electrons just normally... A simple chodic display is a formidable source of photons, but since the electrons had been coming in at a few to a few tens of kV, and are decelerated within a small fraction of a mm to rest by the phosphor in the screen, you don't get RF at all, you get X-RAYS. Nowadays, they try to keep the voltage low enough that those x-rays aren't particularly penetrating, and get absorbed by the glass and stuff in front, but older TV sets used to be something of ionizing radiation hazards, from just this effect. It's called "bremsstralung" (though it might be spelled somewhat differently) and is why paritcle accelerators need to be so long (when you give these electrons all this energy, they accelerate, emitting photons, giving most of the energy right back! - so you have to stretch it out.)

On a slightly more related topic to the thread of this newgroup, Free Electron Lasers work by wigging or "undulating" a beam of electrons back and forth by magnets, as they travel along, and presto!, photons come off. These can be anywhere in the EM spectrum, radio -> x-rays, and I *think* there are some high-power microwave tubes (klystrons? carcinotrons? magnetrons?) that operate by setting up a resonance between electrons that wiggle, giving off (microwave) photons, and using these photons right back to wiggle the electrons in just this correct way, so the thing's an oscillator.

But put me down as agreeing with Dave Curtis, "Accelerate an electron, get a photon."

Bruce
N6URH

1796. HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <314E61D7.176A@vertex.ucls.uchicago.edu>
Source record: 106722

Hi all. I am starting my first major ham homebrew transmitter. I need to design a VFO that is reasonably stable from 1.8-30 Mhz at least, simply switching tuned elements for different bands. I would prefer that it be as simple as possible. Impedance/power-level shouldn't matter, because I plan to buffer it. Is this possible?? Has anyone ever built such a broadband VFO?? Please help.

Thanks,
Isaac

1797. Need some coil winding data, please!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: ferrick@ixc.ixc.net
Message-ID: <4io1mi$t9c@ixc.ixc.net>
Source record: 106723

Hi all,

I just posted this to sci.electronics, forgetting that this group is probably a much better source of the info I need...anyway, I need to make a coil of several hundred microhenries out of some pretty hefty wire...probably about 12 guage copper or so.

I recall there being an equation in my old ARRL handbook (which I have lost track of since I moved last) relating coil size, number of turns and I think wire guage. If you have this equation handy and wouldn't mind enlightening me I would really appreciate it!

thanks,
Pat KA2AYK

1798. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: Mark Schoonover <schoon@cts.com>
Message-ID: <314EEFB0.1C1B@cts.com>
Source record: 106724

How complicated is your circuit?? For small jobs on single sided boards I just use Windows Paintbrush.

HTH

Mark -- KA6WKE

1799. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <4ind7r$hni@news1.mnsinc.com>
Source record: 106725

wwm@wa8tzg.mi.org (Bill Meahan) wrote:

>In article <4i1vl3$o18@kirin.wwa.com> turtle@wwa.com writes:
>>
>>I am looking for a CK722 Philco transistor. It was in a
>>blue case and I need one for nostalgia purposes. It was
>>my first transistor radio project as a young ham.
>>
>> TNX Gary KF9CM
>>
>>

>Gee, I remember the CK722 as being made by Raytheon and in a silver
>metal can that was of a rounded rectangular shape (kinda like a small
>IF transformer) with three thin wire leads from a white insulator.

>I know there's one around here SOMEPLACE but, of course, I can't find
>it. Not that I would part with it anyway, but I could at least verify
>the physical appearance.

>73!

>--
>Bill Meahan WA8TZG wmeahan@wa8tzg.mi.org
>Member of: ARRL, IMRA, NorCal QRP (#407), G-QRP (#8468), MI-QRP (#M1458)
>Hey, this is my OWN computer! I can say what I want!
> cat: a purr bearing mammal

RCA also made a completly clear case CK722. A friend's dad worked for
RCA in Cherry Hill (then Delaware Township) and Camden, NJ. We had
moved from U-Control to RC model airplanes, and this transistor was
the basis of a kit which was one of the first solid-state RC units.
The problem was that the CK722 was hard to get, and my friend's dad
had to pull a few strings to lay hands on one in the spring of 1956.
I'm not sure how widely RCA distributed these things, but you could
see the chip and the fairly crude wire-bond attachments through the
clear plastic case. We marvelled for hours about the thing, even
though that stuff about holes was Greek to us.

Dave Allen
Falls Church, VA
WA2BSL
allent@mnsinc.com

1800. Re: 10m BEACON TRANSMITTER.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4imca6$fca@mksrv1.dseg.ti.com>
Source record: 106726

Here's a suggestion, one that many others are using:
use a modified CB radio!

Buy an old 23-channel crystal-heterodyne CB set at a
flea market or yard sale, should cost less than $10.

Change one of the heterodyne oscillator crystals to
put the set on the desired 10m frequency.

Hard-wire the mic connections to lock the set in TX.

Keying the transmitter could be done by making and
breaking the final output transistor's emitter lead
connection to ground (they are usually tied directly
to ground). Your keying circuit will have to be
capable of handling about three amps current.

There have been a few articles over the last 15 to
20 years about converting CB radios to 1m CW. Look
in back issues of 73, Ham Radio, QST, etc.

Good luck!
73 de KC5NG

1801. Re: 50 MHz FET, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4immgr$jtc@abyss.West.Sun.COM>
Source record: 106727

In article <4im4s0$d6a@tempo.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>Dana Myers (myers@West.Sun.COM) wrote:
>
>: >Hmmm... That's true of course. Well, I can also use a mixer made
>: >by MiniCircuits. They work well, I think.
>
>: That's what I would choose. I'd start out by designing the front
>: end amplifier for a few more dB of gain than the mixer loss, and
>: terminate the mixer in another common-gate FET with moderate
>: gain, followed by the crystal roofing filter. This kind of
>: arrangement works really well in the few radios I've seen use
>: it.
>
>Common gate at 50 MHz ?

Sure, common gate at 50MHz. I've seen common gate used down to
2MHz. I don't know of any reason why it wouldn't be used, and
it offers the advantage of a good termination for a filter without
increasing the NF of the stage, which adding a shunt resistor to
the input of a common source stage almost certainly would do.

>I cannot use a XTAL filter, since I have only a 30 MHz XTAL that
>transposes 50 to 20. But I think I am going to design some kind
>of elliptic low-pass filter to filter out 30 and 80 MHz.

Coupled resonators is probably the filter of choice if the bandwidth
isn't too wide. Elliptic filters of narrow bandwidth can have
unrealistic component requirements...

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1802. Help w/ 6 m reciever circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-19 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <1177.6652T1019T668@nycmetro.com>
Source record: 106728

Howdy folks, on page 54 of the March 1996 issue of CQ magazine is a schematic for a 6 meter FM reciever. I've only got a basic knowledge of Electronics but the circuit seems pretty easy to do...plus the Parts don't appear too costly even if I DO screw up ;-)

Anyway in the article it says to make this circuit manually tuneable I should replace the Crystal with a "series resonant LC combination". Therein lies my problem. I HAVE NO CLUE what this series resonant LC is....Any help or better yet part # or circuit schematic would be MOST welcome. The only LC I recall is LCD as in Liquid Crystal Display....this series resonant LC isn';t a Liquid Crystal IS IT?
Thanx for the help folks.

Ok lemme push my luck......If someone could provide a circuit to Digitally tune this complete with a LCD readout I'd REALLY be appreciative.

Thanx for the help.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1803. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: wb6wlr@wdc.net
Message-ID: <4inkfj$kck@n1.wdc.net>
Source record: 106581

wwm@wa8tzg.mi.org (Bill Meahan) wrote:

>Gee, I remember the CK722 as being made by Raytheon and in a silver
>metal can that was of a rounded rectangular shape (kinda like a small
>IF transformer) with three thin wire leads from a white insulator.

>I know there's one around here SOMEPLACE but, of course, I can't find
>it. Not that I would part with it anyway, but I could at least verify
>the physical appearance.

The CK722 came in BOTH colors. The genuine OFs (count me as one)
remember the earlier ones as being blue. BTW, the package consists of
two cases, a very small metal package containing the actual device
encapsulated in an epoxy-like substance, itself enclosed by the larger
blue or silver can.

I always preferred the GE point-contact 2N107 over the junction CK722,
because its highet Ft (almost 2 MHz, or should I say 2 MC !!) would
allow better BC band transmitters...

Lordy, how time do fly.

- 73 -

Wayne Hoffman
ARS WB6WLR (Grid DM13at)
Internet wb6wlr@wdc.net
PacBell (714) 254-4182

1804. Re: Help w/ 6 m reciever circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4ioplh$ldd@newsbf02.news.aol.com>
Source record: 106582

The ARRL Handbook discusses LC circuits in detail. However, the
suggestion that an LC osc circuit be used on 6 meters is totally wrong.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1805. FS: HP431C Power Meter and HP478A Thermistor Mount

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: dallen@melpar.esys.com
Message-ID: <4ip2hi$im0_001@isp.melpar.esys.com>
Source record: 106583
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I have an HP431C Power Meter and companion HP478A Thermistor Mount for Sale. Both are working units and I'll include the original manual for the 431C. Will sell both for $125 (shipping included in CONUS). Ask Tucker if this is a good deal. He wants over $700.
Dale

++
+ Dale B. Allen (703) 849-1639 Internet: dallen@melpar.esys.com +
+ E-Systems, Falls Church Division FAX: (703) 280-4627 +
++

1806. Re: CB to 10m Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: Monty Wilson <mwilson@bangate.compaq.com>
Message-ID: <DoL0tB.2vu@twisto.eng.hou.compaq.com>
Source record: 106584

In addition to the guy who posted the WWW links, I would just like to add a couple of tips:

1. Keep your circuit changes to a minimum. For a CW rig on 10m or 12m, you want to start with an AM rig, remove the modulation transformer, put in a simple keying circuit and sidetone oscillator, and a BFO unless you know how to make a product detector work easily. Then open up the clarifier and make it into a transmit/receive fine tuner. For a 10m FM conversion (use a rig with the proper Cybernet board unless you have access to a Hy-Gain board) stick with a by-the-book conversion here too. For a SSB radio, get an old crystal controlled 10m SSB rig and just move the frequency band to 10m or 12m. Following a magazine article and keeping it simple is much better than blazing new trails, because so much of the planning details are already worked out for you.

Another idea for CW is to use a SSB radio because no receiver conversion is necessary. But then the tendency is to make a multi-mode transceiver (just so you can get more stuff in one box) and the more complicated you make a conversion, the easier it is to make a mistake and have it die on the table.

2. Don't neglect a major resource, possibly the biggest: the neighborhood illegal CBer. You know the guy. The one who loves to run 3000W and whom you've cussed for giving ham radio a bad name? That same guy down your street probably knows everything about how to put all kinds of radios on any given frequency, and where to buy all the crystals and supplies.

3. Use only plastic tools on those little ferrite cores. The metal jeweller's screwdrivers will tear them up, and fast.
--
.........Monty.
mwilson@bangate.compaq.com

1807. Re: HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4iojqa$25j@crash.microserve.net>
Source record: 106585

Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:

>Hi all. I am starting my first major ham homebrew transmitter. I
>need to design a VFO that is reasonably stable from 1.8-30 Mhz at
>least, simply switching tuned elements for different bands. I would
>prefer that it be as simple as possible. Impedance/power-level
>shouldn't matter, because I plan to buffer it. Is this possible??
>Has anyone ever built such a broadband VFO?? Please help.

Achieving reasonable stability in a 30 MHz variable L/C oscillator is
extremely difficult, if not impossible. As far as I know, not even
the commercial VFO's from the 50's and 60's did it that way. They
stopped at the 40M band and used harmonics to drive the companion
transmitter on 20-10M. Even at that, stability and accuracy suffered.

If you're really determined to cover all the HF bands, you'll be much
better off to build a VFO that covers something like 5-5.5 MHz, then
mix it with various heterodyne crystals to cover all the bands.

73,
Jack WB3U

1808. Re: Need some coil winding data, please!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ipf93$4gn@crash.microserve.net>
Source record: 106586

ferrick@ixc.ixc.net (patrick ferrick) wrote:

>I recall there being an equation in my old ARRL handbook (which I
>have lost track of since I moved last) relating coil size, number of
>turns and I think wire guage.

The formula for the inductance of a single-layer air-core coil is:

L (uH) = (a squared * n squared) / (9a + 10b)

where a = coil radius in inches
b = coil length in inches
n = number of turns

Conversely, the number of turns of a single-layer coil for a required
value of inductance can be found from:

n = sq root [(L * (9a + 10b)) / a squared]

According to the Handbook, this formula is a close approximation for
coils having a length equal to or greater than 0.8a.

73,
Jack WB3U

1809. Re: Help w/ 6 m reciever circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4inm7k$gtg@cloner2.ix.netcom.com>
Source record: 106587

In <1177.6652T1019T668@nycmetro.com> midgard@nycmetro.com (SARUMAN) writes:
>
>Howdy folks, on page 54 of the March 1996 issue of CQ magazine is a schematic
>for a 6 meter FM reciever. I've only got a basic knowledge of Electronics but
>the circuit seems pretty easy to do...plus the Parts don't appear too costly
>even if I DO screw up ;-)
>
>Anyway in the article it says to make this circuit manually tuneable I should
>replace the Crystal with a "series resonant LC combination". Therein lies my
>problem. I HAVE NO CLUE what this series resonant LC is....Any help or better
>yet part # or circuit schematic would be MOST welcome. The only LC I recall is
>LCD as in Liquid Crystal Display....this series resonant LC isn';t a Liquid
>Crystal IS IT?
>Thanx for the help folks.
>
>Ok lemme push my luck......If someone could provide a circuit to Digitally tune
>this complete with a LCD readout I'd REALLY be appreciative.

What they are indicating is that you can replace the crystal (one freq) to a
tunable circuit that provides a variable frequency. The formula for figuring this
out is :
^3 The number on top is 10 to the 3rd.
____10__________
F=
2 PI (Square root of LC)

Sorry, thats the best I could do, Where F = Freq. in MHz, L is inductance in
microhenrys, C is capacitance in picofarads and PI of course is 3.1416.
The end result is simply a variable capacitor in series with an
inductor or a variable inductor with a fixed capacitor. F should equal
the frequency of the recommended crystal which is probably not 50Mhz.

Yes, there have been several articles detailing digital VFO's that
would plug right in to the circuit your describing, although, no
offense intended, if you don't know what an LC circuit is a digital VFO
may not be the project for you.

Best regards,

Tim KA8DDZ

1810. *** Surplus Radio & Electronic Equipment For Sale ***

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: wrs@vcnet.com
Message-ID: <4io11m$12u@news.vcnet.com>
Source record: 106588
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

For Antique Radio, Tubes, Test Equipment, Audio, Military Radio,
Broadcast Equipment, Literature, Electronic Parts, Amateur Radio,
Transformers & Chokes please visit Rich's Surplus Electronics Warehouse
at http://www.vc.net/bbd/surplus

Thanks,
Rich

1811. Re: ? High Power Zener Diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: michaelm@doruk.COM.TR
Message-ID: <9603200026.aa25425@bbs.doruk.com.tr>
Source record: 106589

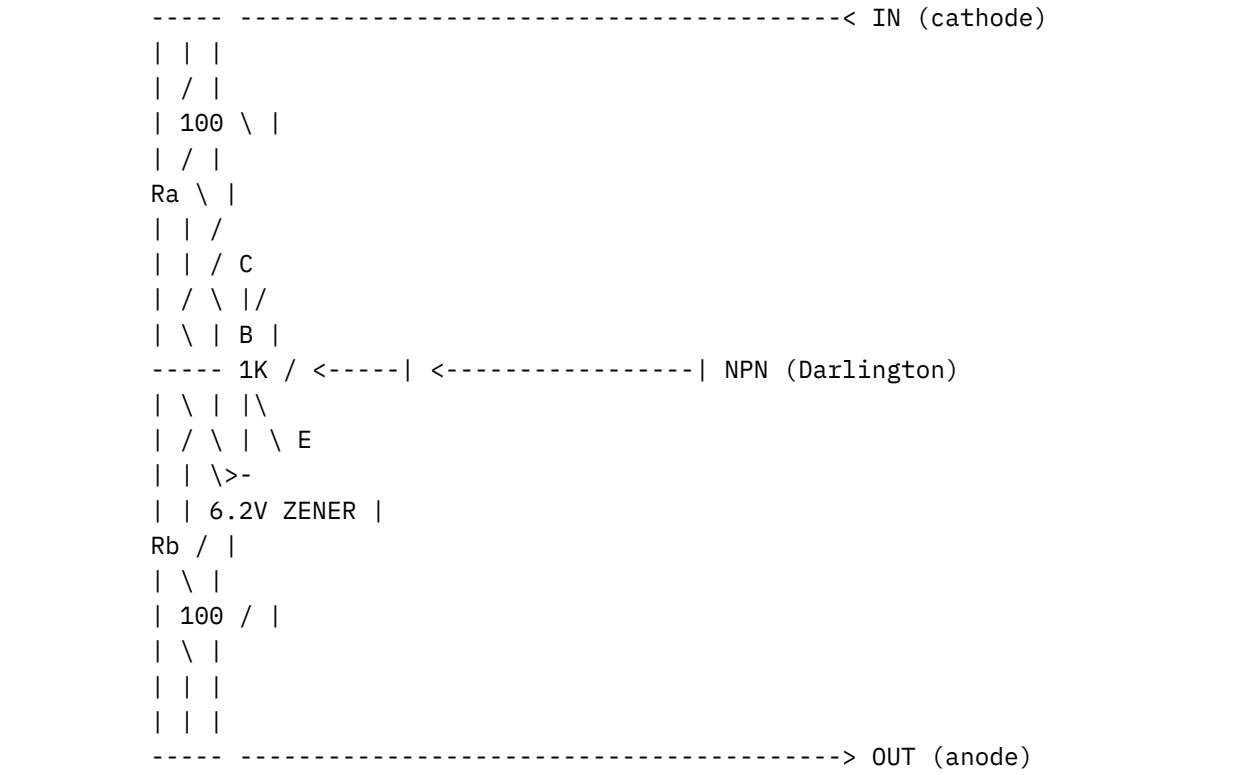
On 14 Mar 1996 dcowey@cyberia.com (gudmundur) wrote:

>In article <31460701@SmtpGate.Oen1.Oen.Siemens.De>,
>guenter.koellner@oen.siemens.DE says...
>>
>>
>>Hello,
>>
>>sometimes high power Zener diodes are used to stabilize grid voltages
>for
>>tubes. For example screen grid on tetrodes with high voltage but low
>>current, otherwise control grid/cathode bias for triodes. 10W and 25W
>zeners
>>are mostly used for this purpose. But there is a problem: standard
>zener
>>diodes are named ZPD+voltage indicator, high power devices mostly
>1Nxxxx.
>>
>>Who has or where can I find a list identifing these devices?
>>
>>Thanks a lot in advance!
>>
>>vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
>> dl4mea@amsat.org (Internet)
>> http://www.scn.de/~koellner (WWW)
>I am not sure how you can get a copy, however, here in america is a
>company called "North American Philips" a spin off of Philips of the
>nederlands. They produce a general purpose replacement line of
>semiconductors and a cross referance book listing tens of thousands
>of original equipment part numbers. They will have the zeners you are
>looking for and a way to find them using equivalent OEM part numbers.
>Maybe I could get a catalog to you, or help you find what you want.
>I recently used zeners for screen grid voltage stablizing. Big
>surprize, Screen grid current is sometimes reverse flow back into
>zeners. 73 Don KD3SH

Yes. High power tetrode screens can source as well as sink current. A stiff screen supply is needed that can handle at least the rated screen current in the reverse direction. This can happen quite easily while tuning an amplifier and result in a fried tube so fast that you would think you were working with a transistor. Eimac used to print a booklet called something like "The Care and Feeding of Power-Grid Tubes" (or maybe it was Tetrodes instead of Tubes - my memory is also fading fast and my copy is thousands of miles away. Sigh...) There was a good discussion on what they called "negative screen current" that would be

worth reading if you could find a copy. I learned it the hard way while trying to design a little 250 watt HF amplifier with an RCA 8122 about 25 years ago. I (stupidly) put a diode in series with the screen supply, which naturally allowed any negative screen current from the tube to raise the screen voltage to the plate voltage range, and *bingo*, fried tube. Live and learn - Eimac taught me what school courses and RCA didn't.

About high-power zener diodes: there is a circuit called a "zener equivalent" which has been used in several HF amplifier designs by my former (and still time-to-time) employer. This circuit may have been patented, many of their "neat tricks" were. In that case, maybe I'm letting myself in for trouble I don't need, but here goes anyway:



Sorry for the crudeness of the ASCII "schematic". The "zener equivalent" is the circuit from "IN" (cathode of zener) to "OUT" (anode of zener.)

Imagine that you have set the pot to 360 ohms "down" from the high side. Then Ra=460 Ohms and Rb=740 Ohms. The voltage drop from the pot wiper to "OUT" must be (6.2+1.2=) 7.4 volts. Then the current through Rb must be (7.4/740=) 10 mA. Ignore the base current - it's a Darlington, after all. If the current in Rb is 10 mA, then the current in Ra+Rb is the same. So, the voltage drop across Ra+Rb is (1200*.010=) 12 volts and the whole circuit acts like a 12v zener diode, with a slightly weak knee. I used a circuit pretty much like this one in the cathode of my 2 meter 8877 EME amplifier, instead of the fixed 12 volt high-power zener specified in the design note. It worked well, no instability at all and plenty of idle bias control. Looking at this one, it appears that the "zener equivalent" could be set from about 8 to about 89 volts.

Flamers take note: this circuit was recommended to me by a fellow ham at my (former, sometimes, whatever) employer. I really don't recall if he said it was patented or not. Please keep in mind that an electronic circuit like this one can be patented - in spite of the obvious "copy-ability". In the 50s and 60s, the "big 3" (or maybe it should be "big 4" or "big 5") HF-SSB radio manufacturers routinely patented circuits like this one. They used to sue each other over patent infringements about as often as you (probably) change your socks, generally to no avail. Not the socks, the lawsuits ;-).

Hope this helps - next time I jump in here maybe I'll tell you about the 20 kW HF-SSB transmitter we built out of two 10 kW 2-30 MHz auto-tune amps and a *big*, autotune, combiner, for the Sheik-of-Whatever in the Persian Gulf (maybe it was Sheik Yerbooty, I don't recall) to play with... the loudest thing on 20 meters at the time ;-). The waster was a 10 kW Bird. I have to laugh at the "5 kW on 75 meters" and "5CX3000A" posts. Wimpy li'l thangs...

73 -

de Mike (TA2ZG/W2AV) Remote Sysop TA2EM BBS - first PRBBS in Turkiye
Amateur Packet Radio: TA2ZG@TA2EM.#IST.TUR.EU
Internet (email only): Michael C. McHugh <MichaelM@doruk.com.tr>

1812. Re: Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: mark@reson.com
Message-ID: <4io1df$8fn@daffy.sb.west.net>
Source record: 106590

elendir@enst.fr (Elendir) wrote:

>I have here some FET data sheets where they give as a noise parameter
>the "Equivalent input noise voltage" in nV/sqrt(Hz).

>I can't locate the paper where I had written the formula to convert this
>parameter into more traditional NF in dB.

>Can someone help me ? (If I remember, NF was also depending on the noise
>current). By the way, it is given @ 100 Hz, so I suppose we are speaking
>about flicker noise here. Is there any way to guess NF at, let's say,
>50 MHz ?

The information below is from an excellent book on noise called
"Low-Noise Electronic Design" by C.D. Motchenbacher and F.C. Fitchen,
published by John Wiley & Sons, ISBN 0-471-61950-7. This book is 20
years old. I believe that there is a newer edition out with a slightly
different title.

NF = 10 log[(Eni^2) / (Et^2)]

= 10 log[(Et^2 + En^2 + (In^2 * Rs^2)) / (Et^2)]

where:
Eni = equivalent noise input
Et = rms thermal noise voltage of a resistance
En = rms equivalent noise voltage generator (the transistor)
In = rms equivalent noise current generator (the transistor)
Rs = resistance of signal source

Et = sqrt[4 * k * T * R * (delta freq)]

-or an approximation-

Et = 0.1268 * sqrt(Rs), in nV/sqrt(Hz) at room temperature.

From my experience, equivalent input noise of a JFET is pretty
constant from low frequency to high frequency (my experience only goes
up to 5 MHz), however, the input noise current starts to increase at
higher frequencies, usually around 100 kHz. The slope data I have
seen shows the input noise current increasing at approximately 20 dB
per decade of frequency.

-
Mark Chun | mark@reson.com | Santa Barbara, CA

1813. HTX-202 Deviation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: KE6VOT
Message-ID: <4io8lm$d38@mark.ucdavis.edu>
Source record: 106591

Hi,
I was tring to use autopatch but my I was not successful.
Talking to another ham, who had been listening to my attemp,
told me that my deviation was weak. How do I change this on a
HTX-202. I'm also new at this so simplistic instructions would be
helpful.
Thanks,
Steve
KE6VOT
e-mail swlease@ucdavis.edu

1814. Re: HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4iopkv$ld2@newsbf02.news.aol.com>
Source record: 106592

It may be possible, but very impractical. A heterodyne system would be much easier, and perform better.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1815. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: "C. Wheeler" <cwheeler@ccnet.com>
Message-ID: <4io4v1$oh3@ccnet2.ccnet.com>
Source record: 106593
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

bigjon1@ix.netcom.com(Jon Shay) wrote:
>In <314b26a9.10630201@news.efn.org> dhughes@efn.org (Dick Hughes)
>writes:
>>
>>moore@isd.upmc.edu (James Moore) wrote:

>>> If interested call 1 800 996-2971

>>I noticed this same post in rec.motorcycles. Must have a lot of
>>stuff! I think he is playing with us.
>
>I think the CLUE here is 1-800......"Sure I'm gonna pay for a 1-800
>service so I can sell my grandfathers junk"....To heck with a YARD SALE
>that would'nt cost a dime!

From calling the number myself (since I heard it was O.O.S.) and listening
to the OOS announcement, it sounds like a paging terminal. Probably a
personal 800 number from Skytel or other carrier. Perhaps the poster
discovered it was not a wise move to publish his pager number here after
he got flooded with calls (like the one I just made) and changed it.

1816. Re: Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4ioucf$qpi@tempo.univ-lyon1.fr>
Source record: 106594

qrk (mark@reson.com) wrote:

[...]

Thanks for the formulae.

: From my experience, equivalent input noise of a JFET is pretty
: constant from low frequency to high frequency (my experience only goes
: up to 5 MHz), however, the input noise current starts to increase at
: higher frequencies, usually around 100 kHz. The slope data I have
: seen shows the input noise current increasing at approximately 20 dB
: per decade of frequency.

Well -
Looking at the BFR30/31 data sheet, the corner frequency seems to be
around 100 kHz. At that frequency, the En stops dropping and In begins
increasing.
En drops at about 3 dB per decade from 10 Hz to 100 kHz.
In increase at 10 dB per decade from 100 kHz to 1 MHz where the curve
stops.

Assuming that the corner frequency lies around 100 kHz, if Rs opt at
100 MHz is r, at 50 MHz, Rs opt should be 2r, no ? and NF(50) < NF(100).

How to account for the reactive component ?

Vince
--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1817. Re: Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4ip5iu$515@tempo.univ-lyon1.fr>
Source record: 106595

Continuing my last message :

Elendir (elendir@enst.fr) wrote:
: How to account for the reactive component ?

I have taken the BF 981 (Dual-Gate MOSFET) in which are given noise circles
for 100 and 200 MHz.

Taking two samples of NF for real Rs at each frequency, it gives :

100 MHz : en = 1.18 nV in = 2.46 pA Rsopt = 479 O
200 MHz : en = 1.19 nV in = 3.64 pA Rsopt = 326 O

Okay, we see that at VHF range, en is stable while it is in which varies.

Assuming a law : in = a * F ^ b, we find :
a = 0.18 and b = 0.57, where a is in pA and F in MHz.

Therefore we interpolate :

50 MHz : en = 1.18 nV in = 1.67 pA Rsopt = 705 O NFopt = 0.9 dB

However, both value do not take in account the reactive Bs component which
seems to be quite large.

And, moreover, at 100 MHz and Ysopt = 0.5 - 1.2 i mS, NF = 0.6 dB !!!
And, at 200 MHz, Ysopt = 0.5 - 2.56 i mS, NF = 0.7 dB.

We see that the Gs has not changed, whereas the Bs did !

Therefore, how to guess that reactive component which we cannot obviously
ignore !

Vincent

--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1818. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: braymer@InfoAve.NET
Message-ID: <01I2KBDOKKXE8ZPWN0@InfoAve.Net>
Source record: 106596

```
add ham-homebrew
```

1819. Re: HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ipknl$bv1@hpcvsnz.cv.hp.com>
Source record: 106597

Isaac Kohn (ikohn@vertex.ucls.uchicago.edu) wrote:
: Hi all. I am starting my first major ham homebrew transmitter. I need
: to design a VFO that is reasonably stable from 1.8-30 Mhz at least,
: simply switching tuned elements for different bands. I would prefer
: that it be as simple as possible. Impedance/power-level shouldn't
: matter, because I plan to buffer it. Is this possible?? Has anyone
: ever built such a broadband VFO?? Please help.

Wow, you are trying to do the next-to-impossible on your _first_ major homebrew transmitter project?? Well, you probably shouldn't try it, but if you are set on doing that, here's a possible route:

Build a VFO that uses diodes (PIN diodes if you can get ones with long enough lifetimes for HF use) to switch among a rather large number of fairly narrow frequency ranges. You can tune within each band with your choice of part: mechanical capacitor, mechanical inductor, or varicap diode(s). But whatever you use, include a varicap which can tune it over a narrow range, perhaps 50kHz, and use either frequency or phase locking driving that varicap to keep the frequency stable. See the HP8640B signal generator for a way to do phase locking to the frequency you tuned manually; it basically counts the frequency before you select "lock", then uses that count to run the phase locking loop. Frequency locking is even easier, since you only need to count the LS bits to be able to track slow drifts. For either phase or freq locking, you could build a switch into the tuning knob so it would lock except when you pushed it in to tune, for example--maybe even put a brake on it so when it's released, it stays put, though that's probably overkill.

But you are probably better off to constrain the problem, and build a VFO that covers about half a MHz, hetrodyning to get to the desired band.

--
Cheers,
Tom
tomb@lsid.hp.com

1820. DDS Proto Board, Rcvr Chip & CP Contrlr 4Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: JFM001@DENTAL3.AB.UMD.EDU
Message-ID: <199603201710.MAA28453@comm1.ab.umd.edu>
Source record: 106598

Gang -
Well, I have been working for about 6 months on a Blue Earth Computer contoller connected to an AD7008 DDS as a vfo for a QRP transmitter/recvr. I have had some success as the transmitter works. I have NO MORE time for designing the receiver or creating an integrated unit. ;'(:'(. I am going to try and sell the items to someone who would continue to make a workable system or would like to experiment with DDS vfo's. So here is my list:

AD7008 Prototyping Board from Analog Devices. Single +5 supply,32 bit phase accumulator, on chip 10 bit DAC, sine - cosine look up tables, 50 mhz speed. Board originally was $295 when I bought it.

AD607 Single chip receivers - 3 ea. These items are VERY RARE!!! Used with the AD7008 for full AM,FM,CW, BPFSK,FSK receiver.

*** Blue Earth 80C51 Prototype Board controller*** Comes with display, 16 & 4 keypad, 12 I/O lines for controlling devices, Tiny basic built in interpretter, Com port cable. Cost over $250 new.

All of this can be used for making your own DDS vfo, tranceiver, frequency synthesizer, etc. I am looking for a Sierra Kit with modules in trade, OHR 4 Bander +, money, other kits, offers (virgins, trips to Mars, Cryo storage facility for internment) :') .

I am going away for two weeks, so please E-MAIL to:
mcclun@clark.net and not the server listed here.

72&73
John N3REY
Always QRP!

1821. WTB: copy of QEX article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: Jim Strohm <jstrohm@texas.net>
Message-ID: <4ipmco$fo5@newsgate.sps.mot.com>
Source record: 106599

I'm looking for a copy of a QEX article from about four years ago
that described a mobile HV switcher supply, 13.8 VDC in, 2 KV out.

Will pay reasonable copying and postage costs.

Belive it or not, this is actually for a LAWNMOWER project, not
an HF tube amp for the car.

Jim N6OTQ
jstrohm@texas.net

1822. Re: HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <31506061.6F7F@vertex.ucls.uchicago.edu>
Source record: 106600

Thanks a lot to everybody who answered and helped me on this!!

73's
Isaac

1823. Re: FS: HP431C Power Meter and HP478A Thermistor Mount

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.827367634.3410.jwicklun@mycroftxxx.halcyon.com>
Source record: 106601
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <4ip2hi$im0_001@isp.melpar.esys.com>,
rec.radio.amateur.homebrew:14806 rec.radio.amateur.equipment:28004
>
> I have an HP431C Power Meter and companion HP478A Thermistor Mount
for Sale.
> Both are working units and I'll include the original manual for the
431C. Will
> sell both for $125 (shipping included in CONUS). Ask Tucker if this
is a good
> deal. He wants over $700.
> Dale
>
> ++
> + Dale B. Allen (703) 849-1639 Internet: dallen@melpar.esys.com +
> + E-Systems, Falls Church Division FAX: (703) 280-4627 +
> ++
>
That's a great deal folks, if the units are working. I paid more than
that for the HP478A - and didn't even get the connecting cable. If I
didn't already have one, I'd snap it up....73 de KI7RH

1824. Re: Need some coil winding data, please!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: "Mr. Brooke Clarke" <brooke@pacific.net>
Message-ID: <3150AA47.606F@pacific.net>
Source record: 106602

patrick ferrick wrote:
...anyway, I need to
> make a coil of several hundred microhenries out of some pretty hefty
> wire...probably about 12 guage copper or so.

Pat:

Wheeler's equation for a single layer coil is:

uH=(r*r*N*N)/(9*r+10*L)

uH = microhenrys
r= radius in inches
N= # of turns
L= length in inches

You can do some computer simulation based on the idea that the resistance
of the coil varies directly as the length of wire used and find that
r=1.23*L [L=r/1.23]. Also you get the highest Q if the spacing between
turns is about the same as the wire diameter.

Good luck,
Brooke
N6GCE

1825. Re: HTX-212 & MFJ-1270C TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: genek@dibbs.net
Message-ID: <3150AC46.2F73@dibbs.net>
Source record: 106603
Cross-posted to:
de.comm.ham,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Brian Webb wrote:
>
> Several weeks ago I purchased a Radio Shack HTX-212 mobile
> 2-meter radio. I own an MFJ-1270C TNC. What I'd like to do is
> hook these two units together so I can operate on packet.
>
> Here are some questions:
>
> 1. Does anybody sell a pre-made HTX-212 to MFJ-1270C interface
> cable?MFJ sells pre-made cables for most radio. Have you checked with them?
>
> 2. If I have to make my own cable, does anybody have a schematic?
>
> 3. Where can I buy an extra modular mic plug of the type used on
> the HTX-212?
>
> 4. Have any of you interfaced these rigs and gotten them to work?
> If so, is there anything that I should know?

You might check these internet sites for some information:
http://www.idir.net/~medcalf/ztx/wire/
http://www.tandy.com/rs/rsmain.html

--
Gene Kennedy, Mobile AL
genek@maf.mobile.al.us
genek@dibbs.net
wa4wbi@maf.wa4wbi.ampr.org

1826. Various transmitter-design questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <31505E54.513F@vertex.ucls.uchicago.edu>
Source record: 106604

A few more questions here. Seeing as a multi-octave VFO is impractical, I'm designing a super-het transmitter. I want to cover most-all of the HF range. The way I'm currently thinking about doing it is:

Fixed 1000Khz osc mixed with AF. Obviously, AF=amplified microphone and osc would be buffered. This way I can have a switch that selects either a 1Mhz LP filter (passive OK?) or a 1Mhz HP filter for SSB. I'd like to make this first mixer passive, because I can get adequate levels of OSC and AF injection and I want to save the complication of an active mixer. This would be followed by a 1Mhz-tuned amp, and another mixer that mixes a different osc. freq. for each band. This second mixer would have to be active, because I want to have relatively pure output from that.

The advantage to this design is that the filters for SSB are at a specific frequency no matter what band I'm on, and I can cover any frequencies I want provided I can build a (crystal) oscillator for that band. MY PROBLEM IS: Another advantage to this design would be if all of my gain were in the 1Mhz section, so I wouldn't have to retune the amplifier for each band. SO THE QUESTION IS: CAN I BUILD/BUY A MIXER THAT CAN HANDLE 30-40dBm OF INPUT?? This sounds ridiculous but I don't want to have different tank circuits in an amplifier for each band of operation (I don't think I can gang-tune it with the second oscillator, because I want them physically separated). Someone please help me!!

Another necessity of this idea is that I'd need to be able to tune the second oscillator through the entire band, which (I think) rules out crystal-controlled oscillators. This brings me back to the need for a multi-band VFO. I suppose a possible solution is for the second oscillator frequency to be generated by mixing a 500-Khz tunable VFO with a crystal-generated freq. and mix the result with the 1Mhz IF... This gets to be a lot of mixing, a lot of unwanted frequencies that I'm not going to build a filter for....

I HOPE SOMEONE READS THIS LONG MESSAGE. PLEASE HELP ME!!!

Any thoughts appreciated. In fact, if you even took the time to read this I appreciate it!

73's
Isaac

1827. Re: 10m BEACON TRANSMITTER.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar20.151541.23294@ke4zv.atl.ga.us>
Source record: 106605

In article <4iilvr$v4q@news.linknet.net> n5ejs@linknet.net writes:
>samir_khayat@yebbs.com (SAMIR KHAYAT) wrote:
>:>Hi,
>:>I am looking for a 10m Transmitter KIT (1-5 W) to be used for the 10m
>:>Beacon OD5TEN (Locator: KM74WK - Tripoli Lebanon).
>:>The Beacon will be running from the same Location of OD5SIX which is running
>:>on 50.078.
>:>I already have the crystal of the Beacon (28.180) and have built the IDer
>:>and put the message in the Eprom.
>:>It would be appreciated to give me the address from where I can buy the
>:>Kit.
>
>:>Samir (OD5SK / KC5RYL)
>
>I too am looking for info on a 1-10 watt CW kit for a beacon on 10
>meters. I have sent requests to Samir asking if he got any info back
>but have not had a responce. Any of you homebrewers out there know
>where I can find a kit or plans for the above?

Hamtronics used to sell a 1 watt exciter (FM) for 10 meters. By
leaving out the modulation, you could key it as a CW transmitter.
I haven't seen their ads lately, but it may still be available.

But you really don't need that. You can easily build a crystal
controlled 10m QRP CW transmitter from scratch. See the RSGB
Handbook, or one of the QRP books, for suitable designs.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1828. Re: Stupid Qustion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-20 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar20.174131.24060@ke4zv.atl.ga.us>
Source record: 106606

In article <4ibfu6$hs9@tempo.univ-lyon1.fr> elendir@enst.fr (Elendir) writes:
>Dave Curtis (david_b_curtis@ccm.sc.intel.com) wrote:
>: Always one to avoid gratuitous mathematics, I believe all the quantum
>: physics one needs to know about antennas is:
>: "Accelerate an electron, get a photon. It's the law."
>
>Well. It's not that simple. Otherwise the simple cathodic display you
>are using would be a formidable source of RF energy !!!!! You get a
>photon when you use alternative current.

Is that like alternative energy? (Sorry couldn't resist.)

You most certainly do get radiation when you accelerate a charge,
even in a CRT. The amount and frequency of the radiation depend
on several other factors, however. One major factor is current,
and beam current in ordinary CRTs is tiny. Another factor is the
amount of acceleration. In a CRT there are four separate accelerations,
beam accleration, beam decleration, and horizontal and vertical beam
deflection. Of these, beam deceleration is the most intense, and
generates soft X-rays. Beam acceleration is second most intense,
and generates millimeter wave radiation. Deflection is least intense,
but more gross, and generates radiation at the frequencies which
are reciprocals of the deflection timing, IE for ordinary NTSC TV
CRTs that's 15.749 kHz and 59.94 Hz. Very little of the latter
propagate out of the tube due to the small coupling area with
respect to a wavelength (most of the interference generated at
these frequencies comes from the H fields of the magnetic deflection
coils outside the envelope (amperes of current flow in these coils),
and not from the beam itself).

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1829. Re: Need some coil winding data, please!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: source@netcom.com
Message-ID: <sourceDoLq5I.KoJ@netcom.com>
Source record: 106607

ferrick@ixc.ixc.net (patrick ferrick) wrote:
>
>I recall there being an equation in my old ARRL handbook (which I
>have lost track of since I moved last) relating coil size, number of
>turns and I think wire guage.

Excerpted from comp.archives.msdos.announce:

50126 Feb 28 14:05 ftp://garbo.uwasa.fi/pc/ham/coil01.zip

: This program computes the electrical self inductance of various shapes
: and sizes of air core coils, using accurate formulae from U. S. Bureau
: of Standards circulars and the physics literature. Geometries treated
: are: straight round wire, circular solenoidal current sheet, N-turn
: circular loop, circular toroid with circular winding, multi-layer
: square solenoid, circular torus ring with rectangular winding,
: multi-layer circular solenoid, single-layer circular solenoid of round
: wire, single-layer square solenoid, and wire gauge calculation. For
: non-U.S. users this version includes a new menu item to switch between
: metric and English dimensional units.

1830. tube CFTH TH3T 1100 info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: maillet@ensm-douai.fr
Message-ID: <4irlos$8q@netserver.univ-lille1.fr>
Source record: 106608

```
pse help me for info
this tube HF CFTH THT3 1100
carracteristique, tension ....
tnx
DM.maillet@ensm-douai.fr
```

1831. Need microwave attenuators

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4is4vt$2up@newsbf02.news.aol.com>
Source record: 106609

Need microwave coaxial attenuators fixed or stepping.
Thanks beforehand.

Viny Coppola

1832. The US$89 DSP eval kit from Analog Devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: datwyler@aros.net
Message-ID: <4irm6f$dno@news.aros.net>
Source record: 106610
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,comp.arch.embedded,comp.dsp

Can those who have purchased this US$89 DSP evaluation board containing the ADSP-2181 please comment on projects they have done, the packaged tools, documentation, the hardware, anything else?

Thanks,

Douglas L. Datwyler WR7O
datwyler@aros.net

1833. Re: HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4iqa79$sm3@dfw-ixnews6.ix.netcom.com>
Source record: 106611

In <4iojqa$25j@crash.microserve.net> jackl@pinetree.microserve.com
(WB3U) writes:
>
> Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:
>
>>Hi all. I am starting my first major ham homebrew transmitter. I
>>need to design a VFO that is reasonably stable from 1.8-30 Mhz at
>>least, simply switching tuned elements for different bands. I would
>>prefer that it be as simple as possible. Impedance/power-level
>>shouldn't matter, because I plan to buffer it. Is this possible??
>>Has anyone ever built such a broadband VFO?? Please help.

The W1FB Notebook has some nice and very simple VFO designs for HF use,
It would be a great starting point.

Tim, ka8ddz

1834. Re: Help w/ 6 m reciever circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <348.6654T945T2764@nycmetro.com>
Source record: 106612

Thanx for the info Tim

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1835. Re: Help w/ 6 m reciever circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <665.6654T947T268@nycmetro.com>
Source record: 106613

>The ARRL Handbook discusses LC circuits in detail. However, the
>suggestion that an LC osc circuit be used on 6 meters is totally wrong.

>73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

This is what it said in the March 96 issue of CQ on building the reciever. To replace the Crystal with a Series LC to allow manual tuning.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1836. Re: CB to 10m Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4iqch7$f58@news3.cts.com>
Source record: 106614

Shelby Merrick (smerrick@som-uky.campus.mci.net) wrote:
: Does anyone have some pointers on modifying a cb for 10m output? Would
: one have to use transverters of some sort, or could you tune the radio
: internally down to 10m? I have a couple of rat shack 11m good for
: nothing cb's laying around and need a use for them. Thanx in advance.

There were lots of articles int 73 Magazine in the early 80's
on converting different CB rigs to 10 meters. Basicly they all
involve studying the block diagram of the rig, changing one
or more of the crystals, and perhaps re-tuning some of the
tuned circuits.

Start by buying the service manual for the particular CB you have
to get the detailed theory of operation of the synthesizer involved.

John Kolb

1837. Re: The US$89 DSP eval kit from Analog Devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: eedin@chatlink.com
Message-ID: <4isknj$tau@news.chatlink.com>
Source record: 106615
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,comp.arch.embedded,comp.dsp

Douglas L. Datwyler (datwyler@aros.net) wrote:
: Can those who have purchased this US$89 DSP evaluation board containing the
: ADSP-2181 please comment on projects they have done, the packaged tools,
: documentation, the hardware, anything else?

: Thanks,

: Douglas L. Datwyler WR7O
: datwyler@aros.net

Well worth the $89($100 for me with shipping). I like the 'c like'
language. The setup code is
complex, but well documented code is included. Figuring out what
register moves are legal seems harder than with TI's 320c26, but there is
a lot more memory and it is all equally accessible, and it runs 3 times
faster.
Kit comes with power supply, and I think there was a serial cable. I
didn't expect either for that price.
If you will be driving hardware with the analog output, you will need
to disable it or make it harmless during power-up. The kit emits a nice
message intended for speakers at power up.
The board is probably twice the size of TI's 320c26 kit if that is
important.
I wish the A/D-D/A was faster. Using mono, you can get 88khz which
makes ragged sine waves above 10 khz and the processor is barely working
at that rate.
The documentation is missing a good language reference. I have an old
ADSP-2101-2102 user's manual and it was necessary for me to spend a lot
of time reading it to understand the language and hardware.
Hope this helps,
Eric

1838. Re: HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4ir0jk$t3b@dfw-ixnews3.ix.netcom.com>
Source record: 106616

>> Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:
>>
>>>Hi all. I am starting my first major ham homebrew transmitter. I
>>>need to design a VFO that is reasonably stable from 1.8-30 Mhz at
>>>least, simply switching tuned elements for different bands. I would

>>>prefer that it be as simple as possible. Impedance/power-level
>>>shouldn't matter, because I plan to buffer it. Is this possible??
>>>Has anyone ever built such a broadband VFO?? Please help.

73 Magazine (I think) did an article on a digital VFO a few months ago
(I can't find it right now). It used the Analog Devices AD7008 CMOS DDS
Modulator. It covered the complete HF band. Go to AD's Web site and get
a copy of the data sheet.

In the article, the author was selling a kit to build the VFO.

Sorry I can't find the magazine.

John
KE6TGN

1839. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: mac@cis.ksu.edu
Message-ID: <mac.827377997@zaurak.cis.ksu.edu.cis.ksu.edu>
Source record: 106617

<>In article <4i1vl3$o18@kirin.wwa.com> turtle@wwa.com writes:
<>>I am looking for a CK722 Philco transistor. It was in a
<>>blue case and I need one for nostalgia purposes....

<wwm@wa8tzg.mi.org (Bill Meahan) wrote:
<>Gee, I remember the CK722 as being made by Raytheon and....

William W Janssen <billj@calweb.com> writes:
<Mine is made by Rayteon and is black plastic with a clear section near
<the leads. It cost about US $7.00 when it was new....

I STILL HAVE my first half dozen or so!-) (grin grin!)

I was a really-poor high-school cheapskate and bought them when they
dropped "below" a dollar (i.e., 99 cents each; about 1958 or 59), built
two TRF radios (with three or four stages of audio gain) small enough to
hide in a hollowed-out school book, sold one to my best friend, and used
the other myself (in study hall).

Later my friend GAVE his radio back to me (that's why I called him my
BEST friend!), and, of course, I still had my own radio, so that's why
I still have six or eight of them.

Mine are blue, too.

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
Myron A. Calhoun, PhD EE; Assoc. Prof. (913) 532-6350 work, 532-7353 fax
Amateur packet radio: W0PBV@N0ARY.#NOCAL.CA.USA.NOAM 539-4448 home
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

1840. Re: Need some coil winding data, please!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4ir60f$hft@abyss.West.Sun.COM>
Source record: 106618

In article <sourceDoLq5I.KoJ@netcom.com>,
David Harmon <source@netcom.com> wrote:
>ferrick@ixc.ixc.net (patrick ferrick) wrote:
>>
>>I recall there being an equation in my old ARRL handbook (which I
>>have lost track of since I moved last) relating coil size, number of
>>turns and I think wire guage.
>
>Excerpted from comp.archives.msdos.announce:
>
> 50126 Feb 28 14:05 ftp://garbo.uwasa.fi/pc/ham/coil01.zip

This appears to be a very nice implementation using Nagoaka's
accurate method to calculate solenoidal inductance, which saved
me from posting notes regarding Nagoaka. Since I use a real
operating system, I was delighted to find the source code and
a makefile was included for Unix, and I had no trouble building
the binary on Solaris x86 2.5 with gcc.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are *
* (310) 348-6043 | mine and do not necessarily *
* Dana.Myers@West.Sun.Com | reflect those of my employer *

1841. Re: Looking for CK722 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: bk296@FreeNet.Carleton.CA
Message-ID: <4irh1n$gfv@freenet-news.carleton.ca>
Source record: 106619

The Raytheon CK722 came in black, red silver, blue (at least). You could colour coordinate your radio!

The original packaging is a small cardboard envelope, abot 2" x 1".

1842. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4iqdrs$oij@mentor.telis.org>
Source record: 106620

I agree Paintbrush is quite adequate for boards I make,which basically 50 ohm lines. 73 Ken

1843. Need directional coupler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4is4te$2th@newsbf02.news.aol.com>
Source record: 106621

Need coaxial microwave directional couplers down in the 2 ghz range.

Thanks beforehand

Viny Coppola

1844. Want HP415 meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4is4pd$2ri@newsbf02.news.aol.com>
Source record: 106622

Need HP415 SWR meter.
Thanks for reading

Viny Coppola

1845. Re: FS: HP431C Power Meter and HP478A Thermistor Mount

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: dallen@melpar.esys.com
Message-ID: <4irnmk$mag_001@isp.melpar.esys.com>
Source record: 106623
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

InThe Power Meter and Thermistor mount have been sold. Dale article
<4ip2hi$im0_001@isp.melpar.esys.com>,
dallen@melpar.esys.com (dale b. allen) wrote:
>Xref: newsgate.melpar.esys.com rec.radio.swap:39185
rec.radio.amateur.homebrew:11969 rec.radio.amateur.equipment:24309
>Newsgroups:
rec.radio.swap,rec.radio.amateur.homebrew,rec.radio.amateur.equipment
>Path: newsgate.melpar.esys.com!inpc12
>From: dallen@melpar.esys.com (dale b. allen)
>Subject: FS: HP431C Power Meter and HP478A Thermistor Mount
>Keywords: Power Meter, HP431,HP478,Thermistor Mount
>Sender: news@melpar.esys.com (Melpar News Administrator)
>Organization: e-systems
>Date: Wed, 20 Mar 1996 13:51:46 GMT
>X-Newsreader: News Xpress Version 1.0 Beta #3
>Message-ID: <4ip2hi$im0_001@isp.melpar.esys.com>
>Status: N
>
>I have an HP431C Power Meter and companion HP478A Thermistor Mount for Sale.
>Both are working units and I'll include the original manual for the 431C.
Will
>sell both for $125 (shipping included in CONUS). Ask Tucker if this is a good
>deal. He wants over $700.
> Dale
>
>+++
>+ Dale B. Allen (703) 849-1639 Internet: dallen@melpar.esys.com +
>+ E-Systems, Falls Church Division FAX: (703) 280-4627 +
>+++

+++
+ Dale B. Allen (703) 849-1639 Internet: dallen@melpar.esys.com +
+ E-Systems, Falls Church Division FAX: (703) 280-4627 +
+++

1846. antennae for SS communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: Lanier.r.a@nort.bwi.wec.com
Message-ID: <4isoo9$9ch@cc2000.kyoto-su.ac.jp>
Source record: 106624

I am looking for information on antennae for spread-spectrum communications. Can I use a regular Yagi or dipole or do I need a special configuration (hybrid?) ?

Also, I would like to hear from someone who regularly QSOs to Europe. I would like to know what type of pitfalls to avoid.

Any advice you can give a rookie like myself would be much appreciated. :)

73s de
Tony, KE4ATO

1847. Re: The US$89 DSP eval kit from Analog Devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: hbs@crl.com
Message-ID: <4itec5$std@crl3.crl.com>
Source record: 106625
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,comp.arch.embedded,comp.dsp

Eric Edin (eedin@chatlink.com) wrote:
: Well worth the $89($100 for me with shipping). I like the 'c like'
: language. The setup code is
: complex, but well documented code is included. Figuring out what
: register moves are legal seems harder than with TI's 320c26, but there is
: a lot more memory and it is all equally accessible, and it runs 3 times
: faster.
: ... etc ...
:

Here's some more info.

Software included:
A windows based demonstration program.
DOS Based Assembler
DOS Based Linker
DOS Based Promspliter
DOS Based Simulator. This is nice because there is no debugger. You
can do a lot with this simulator, including creating
plots of your output.
Demo programs

If you are serious about programming the 2181 (thats the chip on the
board) you will the "ADSP-2100 Family User's Manual", which is free from
ADI. An additional helpful book is "ADSP-2100 Family Assembler Tool &
Simulator Manual" also free from ADI.

I agree with the previous post that said the assembly language is easier
than the TI TMS32Cxx.

The set up for the serial port and the 1847 Stereo CODEC is a bit complex
but there are several demo programs that can be boiler plated.

ADI has a web page: http://www.analog.com with information (search on
EZKIT LITE). There are several samples of FFT, FIR, IIR and others.

Good luck,

Henry
--
Henry Smith (hbs@crl.com)

1848. WTB: 100W FM transmitter for export (or plans)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: wolfelaw@infinet.com
Message-ID: <4isgcu$r9@news1.infinet.com>
Source record: 106626

email if you have either
--
--**********
George M. Wolfe, Esq. - at Beechwold Law Offices
****
Email: wolfelaw@infinet.com
WWW: http://www.infinet.com/~wolfelaw
Street: 4443 North High Street, Columbus, OH 43214-2603
Tel: 614.263.5297

1849. Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: bpwagner@chattanooga.net
Message-ID: <4irgvn$1vu@news.chattanooga.net>
Source record: 106627

I am in the process of building the rock bending receiver for 7MHz as described in QST (August 95), but I cannot find a source for the crystal. I need a 7MHz fundamental mode quartz crystal (the kind that are about the size of a postage stamp), and also a socket for the crystal. Anyone out there know of a place to mail order this crystal?

Thanks for the help,
Brian, N2IFF

1850. X-Tal / Stable TX's???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: "mooney patrick (bs cmsc)" <pmoone1@gl.umbc.edu>
Message-ID: <Pine.SGI.3.91.960321170935.12148B-100000@umbc9.umbc.edu>
Source record: 106628

Help! If anyone could help me find information or possible e-mail info to me on the contruction of stable VHF transistor based transmitters using crystals or cap/coil oscillators. Any frequency within the range 30MHz - 200MHz is what I'm looking for. The info I find on XTAL transmitters in most books require either large circuits or are vague in their construction.

I'm not looking for power since the maximum range will be > 1000 feet, but fewer components and small size are critical. Any help would be greatly appreciated.

Thanks.

- Patrick Mooney

1851. Re: Need directional coupler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.98.00525B79@azstarnet.com>
Source record: 106629

In article <4is4te$2th@newsbf02.news.aol.com> vinyn1vc@aol.com (VINY N1VC) writes:
>From: vinyn1vc@aol.com (VINY N1VC)
>Subject: Need directional coupler
>Date: 21 Mar 1996 12:50:38 -0500

>Need coaxial microwave directional couplers down in the 2 ghz range.

>Thanks beforehand

>Viny Coppola

Viny:

I get the impression that you may have some for higher frequencies. If so, they will be usable at lower frequencies with increased coupling factors. (A 20 dB coupler might now be a 32 dB coupler, or something like that) The directivity will suffer, but for power sampling with reasonable loads, they will be functional.

73, Wes

ps. No luck finding 1N78s :(

1852. Re: Help w/ 6 m reciever circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <31519E8B.6373@lanl.gov>
Source record: 106630

How so totally wrong? Even if the oscillator runs at 50 MHZ, which I doubt, it is POSSIBLE, albeit difficult, to get usable stability with an LC VFO for a rig operating at 50 MHZ. After all, I've used homebrew VFO's in old Motorola rockbound rigs for 2 meter FM, so it should be even easier for a 50 MHZ transceiver. Now, if he's hoping to tune SSB with a VFO, then I'd certainly agree not to waste the effort. But AM and FM should be possible.
This particular circuit sounds like it may use an NE602 osc/mixer circuit for a single conversion receiver, which means the VFO (Variable Frequency Oscillator, of course) to replace the crystal would indeed be running very close to 50 mhz. In this case the VFO should be operated at, say, 8 or 9 MHZ +- and multiplied and filtered to the desired injection frequency. If it's a dual conversion receiver he could use a VFO for one of the lower frequency conversion oscillators with better stability.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
HTTP://nis-www.lanl.gov/~jdport/

1853. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: maf@eng.mc.xerox.com
Message-ID: <1996Mar21.134410.4568@news.wrc.xerox.com>
Source record: 106631

[No readable article body recovered]

1854. US Cyberlab CNC info/review sought

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: jeffa@pax.ssd.loral.com
Message-ID: <1996Mar21.180115.22074@ssd.loral.com>
Source record: 106632

Has anybody bought or seen 3 axis CNC equipment manufactured by U.S. Cyberlab in Arkansas? The company advertises in Pop. Elec. for motion control modules to allow for pcb drill/routing for prototype purposes. I'm particularly interested in the 42" square version. Any review info will be much appreciated.

****
What appears to be a sloppy or meaningless use of words may well be a completely correct use of words to express sloppy or meaningless ideas.
****
jeffa@sesinc.com

1855. Baycom TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-21 00:00:00 UTC
From: firedrak@gstv.gsu.edu
Message-ID: <4iru7a$gc2@sphinx.Gsu.EDU>
Source record: 106633

Does anyone know where I can get the prints for a baycom clone? I am wanting to build my own tnc and can't seem to find the prints anywhere.

Thanks,

Bobby R. Ratliff
KD4MKB
firedrak@gstv.gsu.edu
brratl01@msuacad.morehead-st.edu

1856. Re: Various transmitter-design questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4it5nu$js1@crash.microserve.net>
Source record: 106634

In article <31505E54.513F@vertex.ucls.uchicago.edu>,
ikohn@vertex.ucls.uchicago.edu says...
>
>A few more questions here. Seeing as a multi-octave VFO is
impractical,
>I'm designing a super-het transmitter. I want to cover most-all of
the
>HF range. The way I'm currently thinking about doing it is:

Why such a complicated approach to this project? For ham coverage only look at a Swan 350 Schematic and improvise. For a general coverage application read the circuit descriptions in the owners manual of a Yaesu 747 or similar. Wide band is easier than you think, and you need not re-invent the wheel. 73 and good luck. KD3SH

1857. Ham Radio Online Magazine - free, on the web!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4itc4b$q35@news.accessone.com>
Source record: 106635
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics

In article <4id2n7$n7c@newsbf02.news.aol.com>, jchol@aol.com says...
>
>I have visited the site twice. Really enjoyed the article about launching
>wires into trees. Keep up the good work.
>
>73 de John, WA5TWL

Thanks, John. We appreciate those kind words. We must have almost a dozen articles coming up in April on packet, spread spectrum radio technology, Morse code, TenTec's 6 meter rig (the first of two articles), RF & Cancer, and tons more.

73, Ed, KF7VY

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

1858. 40m QRP transmatch ideas ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: Michelle Nicolls <mnicolls@snowcrest.net>
Message-ID: <4isu0p$c6u@news.snowcrest.net>
Source record: 106636

Does anyone have any ideas for a cheap, very compact, cheap,
homebrewable
cheap, Qrp transmatch for 40 meters? I just built a NN1G 40-40 and would
like to build a matching tuner. Any other neet little QRP projects would
also be of interest.
Thank you, Troy Nicolls

32 yrs old and still cant type!

1859. HELP ! Need broadband impedance match !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: fhartery@kean.ucs.mun.ca
Message-ID: <1996Mar22.065407.1@noah>
Source record: 106637

Hi folks,

I have a problem (...don't we all :{)). I am trying to
accomplish a broadband impedance match. Can anyone suggest some
references I may be able to use ? I have stuff on a narrowband
match, but it's inadequate. Any help would be appreciated, especially
technical books. Thanks in advance.

Fabe

1860. Re: Help w/ 6 m reciever circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4itqku$mvv@newsbf02.news.aol.com>
Source record: 106638

Jim, WB5AOX, says a free running L-C oscillator on 50 mc. might not be "totally wrong", as I so dogmatically put it.

Of course you're right, Jim. I meant it in the context of what seemed to be a first project for a new and inexperienced - but for that so much the more welcome - experimenter.

The ARRL Handbook has clear and easy - and properly tested - projects for the new experimenter.

Mark KN5S New Mexico

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1861. Looking for schematics for Swan 350

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <3152CCD8.4667@vertex.ucls.uchicago.edu>
Source record: 106639

What bands does the Swan 350 cover?? Does anyone have the schematic??
I'd pay cost of copying+shipping if you can send a copy to me. Thanks.

73's
Isaac

1862. Re: HELP ! Need broadband impedance match !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4iun11$qln@crash.microserve.net>
Source record: 106640

fhartery@kean.ucs.mun.ca wrote:

> I have a problem (...don't we all :{)). I am trying to
>accomplish a broadband impedance match. Can anyone suggest some
>references I may be able to use ? I have stuff on a narrowband
>match, but it's inadequate. Any help would be appreciated, especially
>technical books. Thanks in advance.

What's the frequency range and power level? What input and output
impedances are involved?

73,
Jack WB3U

1863. SSB generation/crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: Norman Kohn <nvk@ripco.com>
Message-ID: <3152C975.3E7F@ripco.com>
Source record: 106641

G'morning all,

Is it possible at all to make a filter (presumably using crystals) that cuts off sharply enough (at 1000Khz) to pass one sideband, but not the other?? In other words, is it practical to assume I can find/build a HP and a LP filter for USB and LSB at an IF of 1 Mhz??

If this isn't practical, I have another potential plan that ought to be inexpensive and relatively effective, IF it works. That is, could I have a quadrupler (or higher multiplication) at AF level, then mix with 4 Mhz, then filter for sidebands -- 4 times less sharpness needed -- and then divide by 4?? Or would AF multiplier distort voice too much??

Thanks to all for helping, and 73's,
Isaac K.

1864. 10m Repeater Switzerland HELP wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: Markus Buehler <mbuehler@hitline.ch>
Message-ID: <31537435.48DA@hitline.ch>
Source record: 106642

Hello thank you for reading this message:
We, a small group of ham operators, will build a 10m repeater.
Both RX and TX are located up at about 2000 meters in the swiss
mountains.
A 10 watt beacon is ready to put up to the tx location. We are only
waiting for warmer weather conditions. It will operate on 29.660 mc.
What we are looking for:
Are there 10 m repeaters at such high locations in the united states
or else where ?
We are interested in what kind of antennas where used.
Also the lightning protection is a big problem.
Which kind of tx and rx constructions are the best for 10m
repeaters.
Any other tips are real welcome.
Thanks a lot.
Marc HB9CPW

1865. Re: WTB: copy of QEX article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: hbrown@a0029.resd
Message-ID: <4iuuqs$cmr@morgan.vf.mmc.com>
Source record: 106643

Jim, I have a copy of it.

Send me your address and I will send a copy of it. This subject came up sometime last fall and I remember talking with someone about it. Was it you? At the time, I didn't know where it was but did find it last week.

73, Harry, W3IIT

1866. Re: X-Tal / Stable TX's???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.112.003A16F1@mindspring.com>
Source record: 106644

In article <Pine.SGI.3.91.960321170935.12148B-100000@umbc9.umbc.edu> "mooney patrick (bs cmsc)" <pmoone1@gl.umbc.edu> writes:

> Help! If anyone could help me find information or possible e-mail info
>to me on the contruction of stable VHF transistor based transmitters
>using crystals or cap/coil oscillators. Any frequency within the range
>30MHz - 200MHz is what I'm looking for. The info I find on XTAL
>transmitters in most books require either large circuits or are vague in
>their construction.

> I'm not looking for power since the maximum range will be > 1000 feet,
>but fewer components and small size are critical. Any help would be
>greatly appreciated.

> Thanks.

> - Patrick Mooney

I am in the midst of building up a CW QRP xmitter around a
"Crystal Clock Oscillator" of the sort used in computers and
such ...

I was lucky and found one in my junk box at 21.194 MHZ ...

They are available from many of the mail order houses at stock
frequencies up to 100MHz and by special order from crystal
manufacturers like FOX, JAN, US Crystal at specific frequencies.
In less than 10 lots, custom frequencies might be kind of pricey,
tho---
Regards,
Ed

1867. Re: 40m QRP transmatch ideas ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4iv8b2$sqm@crash.microserve.net>
Source record: 106645

Michelle Nicolls <mnicolls@snowcrest.net> wrote:

>Does anyone have any ideas for a cheap, very compact, cheap,
>homebrewable cheap, Qrp transmatch for 40 meters? I just built a
>NN1G 40-40 and would like to build a matching tuner. Any other neet
>little QRP projects would also be of interest.

You didn't say whether the antenna (dipole?) will be resonant, whether the antenna impedance will match the feedline, or whether you want the ability to tune both coaxial and balanced lines.

Assuming a worst-case scenario, the cheapest single-band tuner would probably consist of one coil, one capacitor, and two clip leads.

The coil would be B&W Miniductor stock. The winding would be cut in two places near the middle, forming a smaller coil that's electrically isolated from the rest of the winding. This center section would be the tuner's link input and you would feed the transmitter output to that winding. The ends of the wires that were cut in order to isolate the link would be connected to each other at the center so that the two outer sections form a single coil (the secondary).

Output from the tuner would be taken from the secondary. By using two clipleads, you can "tap down" on the secondary to achieve a match. The capacitor would be connected across the entire secondary, regardless of the position of the clipleads. If for some reason you can't achieve a match, the capacitor would be moved so that it's in series with the secondary instead of parallel.

I haven't tried it, but for ladder line or open wire, better balance might be achieved in the series configuration if the center connection of the secondary was broken and the capacitor inserted at that point, rather than between one outer lead of the coil and the feedline. Anyway, once you've found the tap position and capacitor configuration that works for a particular antenna, you shouldn't have to do anything but tune the capacitor from then on.

Link coupled tuners are popular for QRP work because of their high efficiency with balanced line. They're also easy to build at these power levels. To use this tuner with coax, just ground one of the output connections.

Following are the component values involved for 40 meters:

Link inductance:
1.4 uH (not critical, 1.2 to 1.7 uH will work)
Secondary inductance:

16 uH (also not critical)
Capacitor:
50 pf (only needs to be large enough to resonate with the
secondary at about 80% of the frequency of operation,
or in this case, 5.6 MHz). Standard receiver spacing
should be adequate to 100 watts or so.

As a final note, you might consider building a multi-band tuner of this type if you're planning on eventually using other bands. To do that, you would need a larger coil (to cover 80 meters), one more capacitor and maybe a band switch. Fair radio sells a used 9-position, 3-deck ceramic switch in their catalog for $3.00 that looks perfect for this. If you want to get fancy in the multi-band design, you can also add a variable capacitor in series with the link. That will give you a greater matching range for a given setting of the coil taps, which makes the tuner more convenient to use (why install a bandswitch if you still have to change taps)? Note that use of a series link capacitor requires that the link be approximately twice as large as without the capacitor.

I don't have current pricing on B&W coil stock, but I suspect a single-band tuner like this could be built for less than $20.00 in cost of parts. The multiband version would probably only add another $10 or $15.

Let me know if you need additional info.

73,
Jack WB3U

1868. Radio Pages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: asperges@innotts.co.uk
Message-ID: <3152f910.675411@news.innotts.co.uk>
Source record: 106646

Still there... updated.. now with added JAVA.

http://www.innotts.co.uk/~asperges/

CU There!

73 de
"Coughs and Sneezes spread Diseases"
(1960's Medical poster)

1869. Re: HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: tayloe_d@sat.mot.com
Message-ID: <1996Mar22.150434.13115@schbbs.mot.com>
Source record: 106647

>>Isaac Kohn (ikohn@vertex.ucls.uchicago.edu) wrote:
>>: Hi all. I am starting my first major ham homebrew transmitter. I need
>>: to design a VFO that is reasonably stable from 1.8-30 Mhz at least,
>>: simply switching tuned elements for different bands. I would prefer
>>: that it be as simple as possible. Impedance/power-level shouldn't
>>: matter, because I plan to buffer it. Is this possible?? Has anyone
>>: ever built such a broadband VFO?? Please help.

>Build a VFO that uses diodes (PIN diodes if you can get ones with long
>enough lifetimes for HF use) to switch among a rather large number of
>fairly narrow frequency ranges.

I have attempted to use pin diodes to switch to various sections of the same band (40M) so that I could use a varactor diode to tune over a more narrow range.

I found the amount of current through the pin diode had a *great* effect on the frequency of the VFO. I tried a few approaches and came to the conclusion that the pin diode approach was going to have a major affect on the stability of my VFO.

Having said that, the pin diode switching does work quite well in a Phase locked VCO, since the loop tracks out the instability caused pin diode.

- Dan Tayloe, WB0NVB, Phoenix, AZ

1870. Re: Various transmitter-design questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4iv8hs$sqm@crash.microserve.net>
Source record: 106648

Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:

>A few more questions here. Seeing as a multi-octave VFO is
>impractical, I'm designing a super-het transmitter. I want to cover
>most-all of the HF range. The way I'm currently thinking about doing
>it is:
>
>Fixed 1000Khz osc mixed with AF. Obviously, AF=amplified microphone
>and osc would be buffered. This way I can have a switch that selects
>either a 1Mhz LP filter (passive OK?) or a 1Mhz HP filter for SSB.

There are two problems with this. First, it's unlikely you could build the filters you're describing so that you would have sufficient unwanted sideband rejection. Second, the filters would need to be BP, not HP/LP. Otherwise, even if the audio is cutoff at 3 KHz somewhere, you risk higher-frequency audio distortion products created in subsequent audio stages being carried through the transmitter. The filtering you need could be accomplished with 1 MHz crystal filters, but that's not a common frequency. In addition, if crystal filtering is used, it's less expensive to change the oscillator frequency between USB and LSB rather than use two filters.

>I'd like to make this first mixer passive, because I can get adequate
>levels of OSC and AF injection and I want to save the complication of
>an active mixer.

Actually, the active mixer is probably simpler.

>This would be followed by a 1Mhz-tuned amp, and another mixer that
>mixes a different osc. freq. for each band. This second mixer would
>have to be active, because I want to have relatively pure output from
>that.

<<snip>>

>SO THE QUESTION IS: CAN I BUILD/BUY A MIXER THAT CAN HANDLE 30-40dBm
>OF INPUT?? This sounds ridiculous but I don't want to have different
>tank circuits in an amplifier for each band of operation (I don't
>think I can gang-tune it with the second oscillator, because I want
>them physically separated).

Mixers work on the principle of non-linearity. The output of an active mixer won't be any cleaner than a diode mixer in terms of unwanted mix products. Like it or not, you'll have to filter this transmitter at both the output of the mixer and the output of the final amplifier.

>Another necessity of this idea is that I'd need to be able to tune
>the second oscillator through the entire band, which (I think) rules
>out crystal-controlled oscillators. This brings me back to the need
>for a multi-band VFO. I suppose a possible solution is for the
>second oscillator frequency to be generated by mixing a 500-Khz
>tunable VFO with a crystal-generated freq. and mix the result with
>the 1Mhz IF...
>
>This gets to be a lot of mixing, a lot of unwanted frequencies that
>I'm not going to build a filter for....

This transmitter won't be usable the way you're describing it. You
MUST filter out the unwanted products.

You didn't say whether this would be tube or solid-state, but my
advice is to look through as many different years of the ARRL Handbook
as you can get your hands on. Even some of the CW-only transmitters
have used heterodyne schemes adaptable to SSB. This will give you a
better idea of the frequencies involved and the degree of filtering
necessary to produce an acceptable output signal.

73,
Jack WB3U

1871. Re: Looking for schematics for Swan 350

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: David Jenkins <davidj@zeus.anet-dfw.com>
Message-ID: <3153A146.7737@zeus.anet-dfw.com>
Source record: 106649

Isaac Kohn wrote:
>
> What bands does the Swan 350 cover?? Does anyone have the schematic??
> I'd pay cost of copying+shipping if you can send a copy to me. Thanks.
>
> 73's
> IsaacMy first rig was a Swan 350C, I can only tell you that it is an 80m to 10m rig. I had a hard time with it then, but I think that it was my inexperience. I traded it to another ham and it worked great for him!!!
73's
David

1872. Re: Various transmitter-design questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar22.232913.5662@ke4zv.atl.ga.us>
Source record: 106650

In article <31505E54.513F@vertex.ucls.uchicago.edu> Isaac Kohn
<ikohn@vertex.ucls.uchicago.edu> writes:
>
>A few more questions here. Seeing as a multi-octave VFO is impractical,
>I'm designing a super-het transmitter. I want to cover most-all of the
>HF range. The way I'm currently thinking about doing it is:
>
>Fixed 1000Khz osc mixed with AF. Obviously, AF=amplified microphone and
>osc would be buffered. This way I can have a switch that selects either
>a 1Mhz LP filter (passive OK?) or a 1Mhz HP filter for SSB. I'd like to
>make this first mixer passive, because I can get adequate levels of OSC
>and AF injection and I want to save the complication of an active mixer.
> This would be followed by a 1Mhz-tuned amp, and another mixer that
>mixes a different osc. freq. for each band. This second mixer would
>have to be active, because I want to have relatively pure output from
>that.

I MHz isn't a particularly good intermediate frequency for a number of
reasons. There are two "classic" IFs for SSB radios, 455 kHz and 9 MHz.
Among other advantages, you can easily get filters and IF transformers
for these IFs. A third alternative would be a very low IF like 60 kHz,
the advantage here is that it is feasible to make a pure LC sideband
filter at this frequency. You're going to need either a crystal or
mechanical filter for higher frequencies. The Collins mechanical filter
is very popular for 455 kHz IFs, and crystal filters are standard at
9 MHz.

9 MHz is a very convienent IF for an amateur rig because you can get
two amateur bands by directly mixing a 5.0-5.5 MHz VFO with the output
of the IF modulator. The sum frequency puts you on 20 meters, and the
difference frequency puts you on 80 meters. For the other bands, you'll
need to pre-mix the 5.0-5.5 MHz VFO with a crystal oscillator to get
you the proper offset. For example, you could mix with a 7 MHz oscillator
to cover 15 meters, IE 5.0+7.0+9.0=21.0 MHz.

For a general coverage design, however, 9 MHz isn't such a good choice
because it falls inside the desired tuning range. 455 kHz can be a better
choice here, but there's another fly in the ointment. At the upper end
of HF, the image frequency from the mixer will be close enough to the
desired frequency that you may have problems achieving sufficient spectral
purity. So you may have to resort to a double conversion design. The
modern method is to choose an IF well above HF, say 70 MHz, and downconvert
to the desired HF frequency. Using a frequency synthesizer covering the
range 40 MHz to 69.5 MHz, you can cover all of HF in one "band". If you're
limited to using a LC VFO, however, you're still best using the 5.0-5.5 MHz

VFO and premixing it with a gang of crystals to achieve the 40-69.5 MHz range in a number of switched bands. 70 MHz is another of those convienent IFs, because filters and transformers are available for it.

>The advantage to this design is that the filters for SSB are at a
>specific frequency no matter what band I'm on, and I can cover any
>frequencies I want provided I can build a (crystal) oscillator for that
>band. MY PROBLEM IS: Another advantage to this design would be if all
>of my gain were in the 1Mhz section, so I wouldn't have to retune the
>amplifier for each band. SO THE QUESTION IS: CAN I BUILD/BUY
>A MIXER THAT CAN HANDLE 30-40dBm OF INPUT?? This sounds ridiculous but
>I don't want to have different tank circuits in an amplifier for each
>band of operation (I don't think I can gang-tune it with the second
>oscillator, because I want them physically separated). Someone please
>help me!!

Well, yes, you could have a mixer that would handle that power level, with vacuum tubes. It was done with 829Bs many years ago. That's not really a good plan, however. One of the reasons that it is a bad plan is that you *also* need a high power oscillator signal, so there's another set of tuned amplifiers to consider, and they won't be at a fixed frequency. And the other reason is that the high power mixer will have an output rich in harmonics, and will be a challenge to filter.

The modern way is to use a broad band output amplifier. This is easy with solid state. And follow the amplifier with a series of switched low pass filters (one for each decade) for harmonic suppression. Nothing has to be gang tuned with this method.

>Another necessity of this idea is that I'd need to be able to tune the
>second oscillator through the entire band, which (I think) rules out
>crystal-controlled oscillators. This brings me back to the need for a
>multi-band VFO. I suppose a possible solution is for the second
>oscillator frequency to be generated by mixing a 500-Khz tunable VFO
>with a crystal-generated freq. and mix the result with the 1Mhz IF...
>This gets to be a lot of mixing, a lot of unwanted frequencies that I'm
>not going to build a filter for....

Well that's the way it works. If you choose your IF carefully, and your pre-mix scheme carefully, you can avoid having products fall inside the band you're currently tuning. If you choose unwisely, you *will* have products falling in the current band. In a receiver these would be called birdies, and they're very annoying. In a transmitter they are called spurious outputs, and they're more than annoying, they're illegal. So lots of filters are required.

I think you might want to gain a bit more experience before tackling this ambitious a project. I suggest that you build a single band SSB transmitter first. 20 meters is a good choice. Use a 9 MHz IF and a 5.0-5.5 MHz VFO. This is very conventional, very classic, and won't cause you lots of grief. There are even kits available if you decide not to build it completely from scratch. Adding 80 meters later will

be a snap, just change the filter after the mixer, and change the output tuned circuits in the PA (these can be switched). Then you can get into pre-mix schemes to add the other bands one at a time.

Spectrum International sells the sideband filter and matching upper and lower sideband crystals. Use a simple packaged Mini-Circuits DBM for the DSB generator, and another one as your conversion mixer. If you don't mind big, the tuning capacitor from an ARC-5 will be perfect for the VFO. It covers the desired range, has a wonderful gear reduction drive with anti-backlash springs, and is made of Iconel for almost no temperature drift. You can still find these things, or at least the capacitor, at many hamfests. If you must have small, you can use a varactor diode to tune the VFO, through a multiturn pot. This is the way modern QRP rigs do it, but tuning won't be as nice, or as stable.

If you still want to scratch build, I suggest you build the transmitter as a series of separate modules. Build the VFO first. Get it working right and stable. Then build the AF amplifier module. Then build the sideband oscillator, DSB generator, and sideband filter as another module. Then build the conversion mixer and 20 meter post-mixer filter. Now you'll have a low power transmitter. Now build your PA and output filter. You should have a complete working 20 meter SSB transmitter at this point.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1873. Re: linear amplifiler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar22.234747.5857@ke4zv.atl.ga.us>
Source record: 106651

In article <4ita5c$fah@bigbox.plug-in.com.br> py3iod@plug-in.com.br (ANTONIO DE PADUA VARGAS ALVES) writes:
> I make a linear to hf bands, and I used four 6KD6 tubes, with 1300V
>and 1 amper. My tubes is now burred.
> I want a new tubes and I think that I doubler the voltagem = 2800 V
>and 0.5 ampers I can use a one 3 - 500 z tubes.
> I ask by any especialist what do you think about my decision ?

You'll have to redesign the output network. The sweep tubes wanted a load line of approximately 1300 ohms that had to be transformed from 50 ohms by the output network. The 3-500Z will want a loadline of approximately 5600 ohms at the voltage and current you propose, so the existing output network won't provide the transformation.

But if you're ready to redesign the output network, this will make a better amp than what you have now. Don't forget to improve the cooling system while you're redoing the RF deck. You're going to have to move a good bit of air to make the tube seals live.

I'm sure Tom will have some further suggestions.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1874. Re: SSB generation/crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar22.235208.5936@ke4zv.atl.ga.us>
Source record: 106652

In article <3152C975.3E7F@ripco.com> Norman Kohn <nvk@ripco.com> writes:
> Is it possible at all to make a filter (presumably using
>crystals) that cuts off sharply enough (at 1000Khz) to pass one
>sideband, but not the other?? In other words, is it practical to assume
>I can find/build a HP and a LP filter for USB and LSB at an IF of 1
>Mhz??

Well, that's not the way it is done. You use a crystal filter that
is only wide enough to pass one sideband. Then you use two carrier
oscillator crystals offset so that using one will place the lower
sideband in the filter's passband, and the other will place the
upper sideband in the filter's passband. So by switching carrier
oscillator crystals you choose which sideband you want to use.

> If this isn't practical, I have another potential plan that
>ought to be inexpensive and relatively effective, IF it works. That is,
>could I have a quadrupler (or higher multiplication) at AF level, then
>mix with 4 Mhz, then filter for sidebands -- 4 times less sharpness
>needed -- and then divide by 4?? Or would AF multiplier distort voice
>too much??

That won't work. The multiplication and division will completely
distort the signal so that it will be unintelligible.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

1875. Re: CB to 10m Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-22 00:00:00 UTC
From: Bill Nadzam <nadzam@garlic.com>
Message-ID: <3152EF57.7FB1@garlic.com>
Source record: 106653

I can help you with this, but you'll need to choose a radio. There
are many CB's that will work well as 10 Meter radios, but each has
it's own conversion technique. So what is the radio? Keep in mind
that the most modern designs can not be modified. That was done
so that the CB crowd would not jump over their 40 channel limits.
the older designs could be modified very easy, and allow you to get
up on the 10 meter band. Some of those radios are still sold today.
One is the Cobra 148GTL and the Uniden Grant XL.

> Does anyone have some pointers on modifying a cb for 10m output? Would
> one have to use transverters of some sort, or could you tune the radio
> internally down to 10m? I have a couple of rat shack 11m good for
> nothing cb's laying around and need a use for them. Thanx in advance.--
---
Name: Bill Nadzam "K8WN"
E-mail: nadzam@garlic.com (Bill Nadzam)

1876. Re: HF VFO design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ivhv5$tc@crash.microserve.net>
Source record: 106654

tayloe_d@sat.mot.com (Dan Tayloe) wrote:

>I found the amount of current through the pin diode had a *great*
>effect on the frequency of the VFO. I tried a few approaches and
>came to the conclusion that the pin diode approach was going to have
>a major affect on the stability of my VFO.

It will effect a VCXO the same way. My transceiver uses the CW
receive crystal in transmit by switching in a small variable cap to
produce transmit offset. A switching diode "connects" the cap into
the circuit.

In one configuration of the mode switch, two 1N914 diodes were in
series with the switching diode and 9.8 volts was applied. In another
position, only one 1N914 was in series and 10.5 volts was applied.
That slight difference in current through the switching diode in the
xtal oscillator (9 MHz) resulted in a frequency shift of about 75-100
Hz.

73,
Jack WB3U

1877. Re: NDN: Ham-Homebrew Digest V96 #118

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: smithta@oxygen.aps1.anl.gov
Message-ID: <4iviqp$gj@milo.mcs.anl.gov>
Source record: 106655

>Sorry. Your message could not be delivered to:
>
>Leslie Dodd,Wellfleet London (Mailbox has been deleted. Try re-entering the
>address.)
>

1878. Re: NDN: Ham-Homebrew Digest V96 #118

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: smithta@oxygen.aps1.anl.gov
Message-ID: <4ivith$gj@milo.mcs.anl.gov>
Source record: 106656

>Sorry. Your message could not be delivered to:
>
>Leslie Dodd,Wellfleet London (Mailbox has been deleted. Try re-entering the
>address.)
>

1879. Re: 10m Repeater Switzerland HELP wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: slapinskas@delphi.com
Message-ID: <pRBoFgY.slapinskas@delphi.com>
Source record: 106657

Markus Buehler <mbuehler@hitline.ch> writes:

>Are there 10 m repeaters at such high locations in the united states

There are a few here, a couple in Carribean area. Think at least some
must be at the 2000m mark. Good coverage? Yes when local propogation
and half way around world when band opens.

>We are interested in what kind of antennas where used.

Wind and static charge would both be enemies at exposed altitude. Something
that is a DC ground type such as Cushcraft Ringo is one way of doing it.
1/4 wave is more of a sky warmer as opposed to the 1/2 wave Ringo type. More
radiation is sent upward with the 1/4 into space rather than toward
horizon as compared with 1/2 wave.

>Also the lightning protection is a big problem.

Lightning arrestors. Polyphase here in US is one company with products that
should take care of problem (not a plug for Polyphase).

>Which kind of tx and rx constructions are the best for 10m

Whatever is laying around for used 29-30 Mhz FM gear. A lot of conversions
have been done with the 30Mhz "Business Band" FM mobile equipment in
Ham radio mags.

>Any other tips are real welcome.

Think real hard about how much power on the tx. If you HAVE to put tx/rx
together at same site, expect to battle the rx desense problem. Filters/
or antenna duplexers are huge and costly due to size because of low
frequency. Thats why the migration to the 2m and 70cm where these
aren't necessary if there is enough vertical space between rx
and tx on a tower. Even about 30 ft. is enough at these frequencies.

>Any other tips are real welcome.

Consider using 10m input and 70cm out for the system? A 2000m site whould
give decent range for the 70cm output, and there wouldn't be the
long range users when band opens up again. Unless you like the company
then go for it and make in and out 10m.

>A 10 watt beacon is ready to put up to the tx location. We are only

Whats the call sign???

1880. Where to test 4CX3000A?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: doughall@parsifal.nando.net
Message-ID: <4j03ck$k62@castle.nando.net>
Source record: 106658

I just got an Eimac 4CX3000A. It's a beauty, really clean, and the best thing about it is that it was free. Supposedly it's a pull with full output, but I'd like to know for sure. Anybody know where I can get it tested?
Thanks & 73,
Doug Hall, KF4KL
doughall@nando.net

1881. Re: US Cyberlab CNC info/review sought

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: slapinskas@delphi.com
Message-ID: <pxBqlOS.slapinskas@delphi.com>
Source record: 106659

<jeffa@pax.ssd.loral.com> writes:

>Arkansas? The company advertises in Pop. Elec. for motion control modules to
>allow for pcb drill/routing for prototype purposes. I'm particularly interested
>in the 42" square version. Any review info will be much appreciated.

Arrick Robotics sells something similar and in an a la carte form. Buy the
controller and 3 axis stages together or seperately. They can be
seen at http://www.robotics.com

Have seen the ads for what you are mentioning, haven't had any first hand
experience with them.

Steve Lapinskas
KA1JJA

1882. Need electronic project - where kan I find projects on the Internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: stephen@pixie.co.za
Message-ID: <4j1c4a$6eu@hawk.pix.za>
Source record: 106660
Cross-posted to:
alt.engineering.electrical,alt.bbs.pcboard,alt.electronics.analog.vlsi,rec.radio.amateur.homebrew,sci.electronics.cad

Hi

I'm a second year electronic student and need a project for one of
my subjects.

It must be something that I can build, (a pcboard), thus easy enough
to understand the operation of the circuit. (more or less). I've been
looking for a nice FM radio receiver (TDA7000 ?) to build but couldn't
find anything practical. I'm interested in radio communications. Any
FM receiver, practical to build will be nice.

I'm still very new on the Internet (first month) so can anybody help
me finding or searching projects on the Internet?

Thanks...
Stephen.

1883. Re: Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: bry2@usa.pipeline.com
Message-ID: <4j0vj3$l1a@news1.h1.usa.pipeline.com>
Source record: 106661

On Mar 21, 1996 12:10:31 in article <Crystals>, 'bpwagner@chattanooga.net (Brian Wagner)' wrote:

>I am in the process of building the rock bending receiver for 7MHz as described
>
>in QST (August 95), but I cannot find a source for the crystal. I need a 7MHz
>
>fundamental mode quartz crystal (the kind that are about the size of a postage
>
>stamp), and also a socket for the crystal. Anyone out there know of a place to
>
>mail order this crystal?

And here it is for anyone else that nees the information(!):

Sources for crystals used in amateur radio:
List by AF4K, Updated 20 Jan, 1996

Updated copies downloadable from BBSes at:
(301) 942-2218, (301) 299-3292, (301) 563-1306
(301) 417-6952, (202) 619-1494, (202) 208-7679
FTP: lujce@hooch.cc.lehigh.edu *
FTP: adams@chuck.dallas.sgi.com *
WWW: http://qrp.cc.nd.edu/QRP-L/index.html
WWW: http://www.nd.edu/~shideg/

* = Will advise actual FTP site addresses soon. Watch this space!
==========

Antique Radio Classified 508-371-0512 Write for free sample.
P.O. Box 802 Magazine. You'll find almost ANYTHING here
Carlisle, MA 01741 for older radios, obscure parts, tubes etc.

Cal Crystal Waiting for more information
Buena Park or Anaheim (not sure which)
California "They will MAKE rocks for almost anything"

Cathodeon Crystals, Need phone number
A PYE Group Company
Linton,
Cambridgeshire
England (Need postal code) Crystals

Crystek Crystals 800-237-3061
2351/2371 Crystal Drive
Ft. Myers, FL 33907 Quartz Crystals

CW Crystals Inexpensive, but SLOW to respond.
570 N. Buffalo Street
Marshfield, MO 65706 (Crystals, $1.00 catalog)

Debco Electronics 800-423-4499
Address needed Crystals for $1.25 and up - catalog.

International Crystal Mfg Co. 405-236-3741
10 North Lee Street Crystals!
Oklahoma City, OK 73102

ICM (International Crystal Manufacturing Co., Inc.) 800-426-9825
P.O. Box 26330: 701 W. Sheridan
Oklahoma City OK 73126-0330

JAN Crystals 800-526-9825: 813-936-2397
P.O. Box 06017: 2341 Crystal Drive: Crystals
Ft. Myers, FL 33906-6017

K-W Manufacturing Company Inc (405) 567-2284
919 8th Street FAX: (405) 567-4153
P.O. Box 508
Prague, OK 74864

LESMITH CRYSTALS (905) 844-4505
54 Shepherd Rd, Fax = (905) 844-2274
Oakville, ON
L6K 2G5
CANADA Crystals for amateur radio. VISA & MC OK.

Marsh Crystals Phone number needed
Address needed
Missouri Source: Frank, WS0W (A313@lehigh.edu)

MDM radio (708) 848-4210
Address needed FAX = (708) 848-0230.
Channel Elements for commercial 2-way radios.

Petersen Radio Co. (712) 323-7539
2735 Avenue "A"
Council Bluffs, IA 51501 Crystals

QSL Ltd. (44) 01322 330830
PO Box 19, FAX: (44) 01322 334904
Erith, Kent DA8 1LH "Made to order quartz crystals,
(England, obviously) delivery approx. 2 weeks."

Ryan Communications 412-368-3859
BOX 111E Camelot Road (QRP CW transmitter, ready made,)
Portersville, PA 16051 (and transmitter kits, crystals)

Sentry Manufacturing Company (405) 224-6780
Crystal Park
Chickasha, OK 73018 Crystals

Velco Electronics (716) 924-2073
Address needed (716) 924-2136 = FAX
Address needed Crystals

C. W. Wolf Communications (406) 252-9220
Address needed FAX = (406) 252-9617
Channel elements for commercial 2-way radios.

==========
This list was prepared by AF4K, Brian Carling - Updated Jan 21, 1996
Please send additional sources for inclusion in this list.
If you go to a hamfest and see someone selling crystals, please
get a card and send me their name, address and phone number.

Bry in Gaithersburg, MD near DC
We are waiting for Pipeline to RESPOND!
The information is on its way (EVENTUALLY!)
Bry2@usa.pipeline.com

1884. Re: CB to 10m Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: turtle@wwa.com
Message-ID: <4j18fb$6o1@kirin.wwa.com>
Source record: 106662

> Shelby Merrick <smerrick@som-uky.campus.mci.net> writes:
> Does anyone have some pointers on modifying a cb for 10m output? Would
> one have to use transverters of some sort, or could you tune the radio
> internally down to 10m? I have a couple of rat shack 11m good for
> nothing cb's laying around and need a use for them. Thanx in advance.
>
> 73's
> KE4AKA
> Shelby
>
>>>>
Hi Shelby,

By manipulating the loop oscillator crystal frequency of your CB set,
you can move the 40 channel (400Khz aprox.) segment to ant part of
10 meters. It's best to start with a SSB radio for CW but you can
use an AM setif you want to go up to 29 Mhz (AM window).

If you want to "E"mail me on specific modification of your particular
rig, you need to tell me:

1. The chip number of your PLL.
2. What frequency you want to go to.

"73" Gary KF9CM

1885. FS: Ramsey PA-10 Booster $65

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: William Leonard <WRLEONARD@cc.memphis.edu>
Message-ID: <3154209E.1CE7@cc.memphis.edu>
Source record: 106663

```
power: 12vdc@4amps= 30 watt output
preamp 16dB gain
1 dB noise figure
Switching: PIN diode, ideal for PACKET

With my HTX-202 at full imput (6W) - yielded 40 watt through the
ramsey booster.

Asking $65
Please e-mail: WRLEONARD@cc.memphis.edu
or call Bill: 901 523 9173
```

1886. Re: 10m Repeater Switzerland HELP wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: Markus Buehler <mbuehler@hitline.ch>
Message-ID: <3154B1E9.3E5B@hitline.ch>
Source record: 106664

Thank you for your answer.
slapinskas@delphi.com wrote:
> If you HAVE to put tx/rx together at same site, tx and rx are not together, there will be a link on UHF/SHF
> Whats the call sign??? It is HB9HD

1887. Re: Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4j1hk8$7dp@orange.iap.net.au>
Source record: 106665

bpwagner@chattanooga.net (Brian Wagner) wrote:

>I am in the process of building the rock bending receiver for 7MHz as described
>in QST (August 95), but I cannot find a source for the crystal. I need a 7MHz
>fundamental mode quartz crystal (the kind that are about the size of a postage
>stamp), and also a socket for the crystal. Anyone out there know of a place to
>mail order this crystal?

>Thanks for the help,
>Brian, N2IFF

JAN, Ft. Myers, Fla.

1888. Re: HELP ! Need broadband impedance match !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4j1hpc$7dp@orange.iap.net.au>
Source record: 106666

fhartery@kean.ucs.mun.ca wrote:

>Hi folks,

> I have a problem (...don't we all :{)). I am trying to
>accomplish a broadband impedance match. Can anyone suggest some
>references I may be able to use ? I have stuff on a narrowband
>match, but it's inadequate. Any help would be appreciated, especially
>technical books. Thanks in advance.

>Fabe

Depends. What are you trying to match - like from what
to what? Output pi-net to coax? interstage coupling?
Your tuner too sharp? Eg, your question is a bit too
general. Look in texts under "swamping" and "Q-factor"

Uncle Brian VK6BQN

1889. Re: Crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4j1dli$3nn@dfw-ixnews4.ix.netcom.com>
Source record: 106667

In <4j0vj3$l1a@news1.h1.usa.pipeline.com> bry2@usa.pipeline.com(B C) writes:
>
>On Mar 21, 1996 12:10:31 in article <Crystals>,
'bpwagner@chattanooga.net
>(Brian Wagner)' wrote:
>
>
>>I am in the process of building the rock bending receiver for 7MHz as
>described
>>
>>in QST (August 95), but I cannot find a source for the crystal. I
need a
>7MHz
>>
>>fundamental mode quartz crystal (the kind that are about the size of
a
>postage
>>
>>stamp), and also a socket for the crystal. Anyone out there know of
a
>place to
>>
>>mail order this crystal?

In addition to the fine list provided, you might want to contact the
NorCal QRP club, a few weeks ago they were selling XTALS for 7040KHz, 4
pc. for $10

Tim, ka8ddz

1890. KENWOOD TH 415

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: Eric <tsuba@pacwan.mm-soft.fr>
Message-ID: <3154755A.6D52@pacwan.mm-soft.fr>
Source record: 106668

Is there anyone out there in position to tell me if it's possible to transform a UHF KENWOOD TH415 (Band 430-439) into a VHF (band from 130 to 170 approx).

I do not expect much, but we never know.

Thanks in advance.

Eric.

1891. Free New Service

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: dale@ix.entrepreneurs.net
Message-ID: <4j1cm5$nvu@news.magi.com>
Source record: 106669

The Amateur Market Place Online Announces
the Launch of Smart SwapNet

Stop hunting through Usenet rec.radio.swap and receive
a targeted list of ads directly to your email box every morning.
Advertisers: Directly target interested buyers.
Notify the buyers list when your item has been sold
and avoid unnecessary enquiries.
Buyers: Receive notification only when items of interest
to you are available.

The Smart SwapNet is a new free Email service that forwards
your FORSALE, WANTED, and TRADE advertisements to a list of
buyers interested in specific equipment brands.

Visit the Smart SwapNet at

http://www.entrepreneurs.net/dale/smart.htm

1892. Re: Help w/ 6 m reciever circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-23 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <1292.6656T869T196@nycmetro.com>
Source record: 106670

>Jim, WB5AOX, says a free running L-C oscillator on 50 mc. might not be
>"totally wrong", as I so dogmatically put it.

>Of course you're right, Jim. I meant it in the context of what seemed to
>be a first project for a new and inexperienced - but for that so much the
>more welcome - experimenter.

>The ARRL Handbook has clear and easy - and properly tested - projects for
>the new experimenter.

>Mark KN5S New Mexico

>73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

Thanx for the tip on the ARRL handbook. I'll have to check my issues of CQ for the # and order one. Tim Hynde was kind enuff to email the proper Formula to figure out Freq based on the LC. The printout of it I have seems garbled tho The print out I made says FReq=(2*pi*sqr(l*c)^-1 my beffudlement is what does the ^ signify? Squared? Alas all my Electrical book hath disappeared. I must have given them away years ago when I stopped experimenting.

Thanx for the help.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1893. Help w/conductive epoxy

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDosCM9.Gy8@netcom.com>
Source record: 106529

I am looking for a source and suggestions for conductive epoxy. I want to use it as a way of attaching braid/strapping to the trunk lid and body of my car so I can improve the grounding for my mobile HF antenna. I don't want to drill holes (there isn't a good way of drilling into the trunk lid anyway) and I can't think of any other way of attaching wire braid to the metal body parts.

Any suggestions?

Any sources?

Thanx,

73 Dave WB0GAZ dgf@netcom.com

1894. Re: SSB generation/crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: Christopher Trask <ctrask@primenet.com>
Message-ID: <4j568t$qhr@nnrp1.news.primenet.com>
Source record: 106530

Norman Kohn <nvk@ripco.com> wrote:
: G'morning all,

: Is it possible at all to make a filter (presumably using
: crystals) that cuts off sharply enough (at 1000Khz) to pass one
: sideband, but not the other?? In other words, is it practical to assume
: I can find/build a HP and a LP filter for USB and LSB at an IF of 1
: Mhz??

: If this isn't practical, I have another potential plan that
: ought to be inexpensive and relatively effective, IF it works. That is,
: could I have a quadrupler (or higher multiplication) at AF level, then
: mix with 4 Mhz, then filter for sidebands -- 4 times less sharpness
: needed -- and then divide by 4?? Or would AF multiplier distort voice
: too much??

It's actually far more practical these days to make a phase-
shift type SSB generator than to try and make (UGH!) or buy crystal
filters. With only six poles and using 1% resistors and 2% capacitors
(readily available), you can make a very inexpensive SSB generator that
will have 40dB of unwanted sideband suppression with a baseband of
50-2500 Hz. It requires the phase shifter, two mixers, and a combiner.
By changing the polarity of one of the two phase shifted channels, you
can select either USB or LSB. Total cost would be around $20.

I know that the question was about generating SSB signals with
a crystal filter, but I thought that this would be helpful as alter-
natives were also presented.

There is a third method, referred to as the Weaver modulator,
but I have found it to be less practical than the phase-shift approach.

Regards,

Chris

Chris Trask / N7ZWY Circuit Design for the RF Impaired
ATG Design Services __ __ ____ ___ ___ ____
ctrask@primenet.com _~_ /__)/__) / / / / /_ /\ / /_ /
(@ @) / / \ / / / / /__ / \/ /___ /
----------------------ooO~(_)~Ooo--

1895. AV-3 Ant Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: kj4uo@aol.com
Message-ID: <4j51r4$3l0@newsbf02.news.aol.com>
Source record: 106531

I am trying to rebuild a AV-3, I need the measurements on the sections between the base and the first trap (10M), the measurement between the two traps, and the measurement from the second trap to the tip.

Can anyone help?

Paul
KJ4UO

1896. HTX-202 Deviation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: Clint.Bradford@228.woodybbs.com
Message-ID: <390_9603241826@woodybbs.com>
Source record: 106532

>>I was tring to use autopatch but my I was not successful.

If you have trouble getting the touch-tones on the HTX-202 2-meter Ham Radio Transceiver (Cat No. 19-1120) to work with the local Repeater, try resetting the unit's touch-tone audio level.

To do this, you can adjust the touchtone pot (RV 1001) down until the tones don't decode, then up again until it JUST works. (Simply tuning down is NOT as reliable as this metho You uld make NO other adjustments!

Also, many repeaters will read back the tones once they decode properly. If you are unsure how to do this, you can find out from another repeater member.

This is all R.S. would have to say about there HTx-202. If you have had any problems with using the phone patch, this should cure it. Some have been setting the << Auto Reply >> function in the main setup to << ON >> to cure this problem. If you have, set it back to << OFF >> before adjusting (RV 1001) pot.
---
* wcECHO 4.1 ~ AR-Net: ATTENTION to Details * Mira Loma, CA * 909-681-6221
--
|Fidonet: Clint Bradford 1:2619/228
|Internet: Clint.Bradford@228.woodybbs.com
|
| Standard disclaimer: The views of this user are strictly his own.

1897. want to make transmiter and receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: mthompson@cyberus.ca
Message-ID: <4j4538$k7c@cybernews.cyberus.ca>
Source record: 106533

I have been tinkering around with the idea of making my own pager. Not your typical pager, but one that would simply transmit 1 to 2 miles. I plan on connecting it to my car alarm, such that when the alarm goes off it will page. The alarm itself already has a spare 12V lead that is meant for accessories, or other add on (pagers, door locks etc.) It sends 12V through the wire when the larm goes off. Can anyone point me in the right direction in the way of building such a device?

Thanks

Please e-mail me iff possible.

1898. Re: HELP ! Need broadband impedance match !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: daveb@connect.net
Message-ID: <31557ec9.3109268@news.connect.net>
Source record: 106534

fhartery@kean.ucs.mun.ca wrote:
>Hi folks,
>
> I have a problem (...don't we all :{)). I am trying to
>accomplish a broadband impedance match. Can anyone suggest some
>references I may be able to use ? I have stuff on a narrowband
>match, but it's inadequate. Any help would be appreciated, especially
>technical books. Thanks in advance.
>
>Fabe
Tom Cuthbert's book "Circuit Design using personel Computers" has a
section on broadband impedance matching. He has also published a
couple articles in RF Design magazine recently that go into more
recent theoretical details, and also present software that does much
of the grunt work.

"Broadmand Impedance matching methods"
Thomas Cuthbert
RF Design Magazine
August 1994

Broadband Impedance Matching, Fast and Simple"
Thomas Cuthbert
RF Design Magazine
Novenber 1994

Regards

Dave Bengtson
David Bengtson
Yes, these are my opinions
Looking for Old HP-41 Calculators and Accessories

1899. Re: HTX-202 Deviation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: jkesling@shell.portal.com
Message-ID: <4j49qs$std@news1.shell>
Source record: 106535

KE6VOT wrote:
>Hi,
>I was tring to use autopatch but my I was not successful.
>Talking to another ham, who had been listening to my attemp,
>told me that my deviation was weak. How do I change this on a
>HTX-202. I'm also new at this so simplistic instructions would be
>helpful.
> Thanks,
> Steve
>KE6VOT
>e-mail swlease@ucdavis.edu

The HTX-202 has 3 deviation adjustments:

RV1 Microphone
RV1001 DTMF
RV1002 CTCSS

You will need to locate RV1001 for your adjustment. For best results
you should have a deviation meter or some other way to measure the deviation
as you make the adjustment and adjust for 3.5-4Khz of deviation. You
may be able to obtain acceptable results by the tweaking method though.

I seem to remember a different problem with the HTX-202 that caused
problems with some autopatches. It's been a while since I owned one
and this is from memory since I no longer have the operation manual.
But what I remember is a setup option that would keep the transmitter
keyed for a period of time after pressing one of the DTMF keys. This
time delay was too long for some autopatches. Turning this option off
may take care of your problem. It's worth a try and much easier than
opening up the radio.

73 - John
--

John Kesling - jkesling@shell.portal.com or jkesling@norden1.com
---
WA8ZGO - via AX.25 packet radio WA8ZGO@W8HHF.OH.USA

1900. Re: fuses vs. circuit breakers vs. polyswitch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <4j4866$e3l@usenet.srv.cis.pitt.edu>
Source record: 106536

In Article '<4ik0es$5kb@nkosi.well.com>', through puissant locution, 'tkreyche@well.com' soliloquized:
>None of electronics are critical to aircraft operation so the primary
>goals are: prevention of short circuit induced fires and instrument
>protection. The instruments need to run as long as possible while the
>batteries discharge.
>
>Circuit breakers appear to have a voltage drop of about 1.5 v which
>minimizes useful battery life, so it appears to be a bad option for a
>system which isn't charging continuously. Fuses would be difficult to
>change in flight but have obvious advantages of little voltage drop,
>cheap, etc.

Greetings. I guess the grades of breakers vary because the ones I measured were sub 1 ohm loss. That's a lot less than 1.5V drop. I'm sure someone here will clarify this.

>My plan is to fuse both + and - on the batteries as close to terminals as
>possible, use fairly high value fuses to protect against shorts, say 10
>or 20 amps. They can't be changed in flight, but if one blows, I can
>switch to the other battery.

You can also try the fusible link... as used on cars. Looks like a piece of wire but is designed to blow at xxx amps. Might be easier to deal with than fuses (considering that when it DOES blow, the plane is going to need a good looking over anyways... ie. not something you're supposed to EVER replace).

>The next question is what to do about individual instruments. Nothing? or
>fuse each one? or put Raychem PolySwitches on each one? They're listed in
>Digi-Key, are cheap and have minimal resistance.

But they take a lot longer to "open" than fuses. Also, they work best on severe shorts.. if it's something that's ALMOST a short, they might take them up to a second (maybe more, I forget) to open. They also depend on outside temperature.

I would use a breaker. I really like the idea of being able to reset it under load and hope that just MAYBE it blew because the planets were aligned just such and it's not really a short [smirk]

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/| Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.

| I think for myself. I listen. I make decisions. I speak what I believe.

1901. Re: US Cyberlab CNC info/review sought

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <4j494l$e7j@usenet.srv.cis.pitt.edu>
Source record: 106537

In Article '<1996Mar21.180115.22074@ssd.loral.com>', through puissant locution,
'jeffa@pax.ssd.loral.com' soliloquized:
>Has anybody bought or seen 3 axis CNC equipment manufactured by U.S. Cyberlab in
>Arkansas? The company advertises in Pop. Elec. for motion control modules to
>allow for pcb drill/routing for prototype purposes. I'm particularly interested
>in the 42" square version. Any review info will be much appreciated.

Greetings. They have a bad reputation from the sci.electronics.* folks.
Several people ordered, waited MONTHS, and what they got was shoddy at
best (I remember the word "crap" being used a lot...). If they have
gotten their act together, great. If I get an e-mail from someone
with a positive opinion of them, I'll change posts like this.

I used to have them included in a PCB faq (sort of) and got some flames
for endorsing (I wasn't) a scam (oh boy). Hope for everyone involved
that times have changed.

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/| Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

1902. Re: 10m Repeater Switzerland HELP wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: bb@tisc.com
Message-ID: <4j25v0$dsl@taxis.corp.titan.com>
Source record: 106671

Markus Buehler <mbuehler@hitline.ch> wrote:

>Hello thank you for reading this message:
>We, a small group of ham operators, will build a 10m repeater.
>Both RX and TX are located up at about 2000 meters in the swiss
>mountains.
>A 10 watt beacon is ready to put up to the tx location. We are only
>waiting for warmer weather conditions. It will operate on 29.660 mc.
>What we are looking for:
>Are there 10 m repeaters at such high locations in the united states
>or else where ?
>We are interested in what kind of antennas where used.
I would consider a 5/8 wave verticals (these are popular for CB radio
in the states) And for static and near lightning hits have DC
continuity to ground
>Also the lightning protection is a big problem
all repeaters have this problem, Put in many ground rods straped
together with copper strips, (required length X 2" X..05") works.
polyphasor selles a lightning arestor that when tied to this grounding
system will help considerabily, if you are using AC power from the
grid make sure that you have surge protection
>Which kind of tx and rx constructions are the best for 10m
>repeaters.
I would buy a General Electric Exeuctive mobile . they are here in the
states tuned in the low 30 mhz regon and are a steal for $50-$100
>Any other tips are real welcome.
I would assume that running a split sight would be the easiest placing
the transmitter 1 mile from the receiver

i beleve that 10 meter repeaters run on a 100khz split this would be
difficult to do with a duplexer or cavitys. and would be bigger than a
car
if you run 2 antennas with one wave length vertical seperation
And build 2 2-3 section helical filters, one for the transmitter to
keep the transmitter noise from geting into the receiver, and one for
the receiver to stop the transmitter from overloading the front end of
the receiver might be a posibility that would work
>Thanks a lot.
>Marc HB9CPW

1903. Re: HELP ! Need broadband impedance match !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: fhartery@kean.ucs.mun.ca
Message-ID: <1996Mar24.062606.1@leif>
Source record: 106672

Fabe wrote...

>> I have a problem (...don't we all :{)). I am trying to
>>accomplish a broadband impedance match.
>

> Depends. What are you trying to match ....
>
> Uncle Brian VK6BQN
>

Ok guys and gals, I will come clean !

I am trying to match an acoustic transducer which has a nearly constant resistive value of 50 ohms, but which has a capacitive reactive component decreasing linearly from 1000 to 600 ohms, over a frequency range from 150 KHz to 180 KHz. I would like to conjugate 'match out' that reactive component, or at least minimize it. This may not seem like a ham problem, but really impedance matching is a pretty general concept (at least to dopy me...).

A simple loading coil won't buy me much, the variance in the reactance is my major headache. I know the answer is a ladder network, but calculation of the ladder values requires an analytical look at things and I am...let me say... referencelessness.

Sorry for using the extra bandwidth in this repost. Thanks for the queries thus far too !

Take care...
Fabe

1904. Re: lightning detector, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <4j48mb$e50@usenet.srv.cis.pitt.edu>
Source record: 106673

Someone wrote:
>very simple RDF system will give reliable results over thousands of
>miles of ocean. The 'Sferics detectors were simple shielded loop
>antennas, one oriented N-S and the other E-W, tuned to resonance at
>10-KHz. Each developed a signal that was amplified by a three-stage
>amplifier and the raw 10-KHz. outputs were put on the vertical and
>horizontal plates, respectively, of a CRT. A distant static crash would
>cause a diagonal line to appear on the scope at an angle equal to the
>azimuth, to a high degree of accuracy.

Greetings. I was browsing some site and a flag went up, courtesy
the subconsciousness, about lightening detectors. Here is the
blurb:

Lightning Detector (24k) [12/95]
http://www.wenzel.com/pdffiles/litening.pdf
Detects radio pulses from approaching lightning storms!

You will need a PDF viewer... the above is courtesy
Wenzel Associates, Inc. (http://www.wenzel.com/). They
have some cool stuff, I wish I had the $$$:-(

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/| Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

1905. Microwave Oscillators

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4j3iij$gm6@mentor.telis.org>
Source record: 106674

Looking for PLL Brick oscillators 4-10 Ghz Typical manufactuers Frequency West,California Microwave,etc. Tnx and 73 Ken W6GHV

1906. wanted schematic diagrams or layout of a 137 Mhz receiver, who will help ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: Geert.Pirens@ping.be
Message-ID: <4j3nj6$op2@ping1.ping.be>
Source record: 106675

Hello All,

Can someone help me on a schematic diagram or layout of a 137 Mhz.
receiver ?

I want to reciev singnals of the NOAA's and METEOR's

Addresses of stors or any kind of helpful tip is welkom!!

I'm looking out for some response!!

Thanks in advance

73! de ONL2057 at JO20RX

Geert Pirens

1907. Help on tube mfg'r date

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: turtle@wwa.com
Message-ID: <4j430r$b0o@kirin.wwa.com>
Source record: 106676

Does anyone know when the following tubes were first manufactured:

808 ,3B24 ,24 ,76 ,45 or 56

I am joining the AWA antique tube operating contest in september and any help would be greatly appreciated.

TNX Gary KF9CM

1908. HowTo reduce HR2600 pwr ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: John Gainsborough <jgindc@erols.com>
Message-ID: <3155D49D.2C03@erols.com>
Source record: 106677

I've recently acquired an HR2600 and wish to use it for all mode working in the VHF/UHF bands using transverters. I plan to build the transverters from kits.

Is there a way I can reduce the HR2600 power output using internal controls so that I can feed the needed low power to a transverter, rather than by heating up the shack with an external attenuator?

John, KM6LJ

1909. Re: 40m QRP transmatch ideas ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-24 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4j4fp1$99u@nadine.teleport.com>
Source record: 106678

In article <4isu0p$c6u@news.snowcrest.net>,
Michelle Nicolls <mnicolls@snowcrest.net> wrote:
>Does anyone have any ideas for a cheap, very compact, cheap,
> homebrewable
>cheap, Qrp transmatch for 40 meters? I just built a NN1G 40-40 and would
>like to build a matching tuner. Any other neet little QRP projects would
> also be of interest.
> Thank you, Troy Nicolls
>
>32 yrs old and still cant type!

Solid State Design for the Radio Amateur, p. 167, Fig. 60. Delete the 75 pF fixed capacitor. Reducing the inductance by a factor of two and increasing the variable caps about the same amount will reduce the loss, although it's not bad on 40 m. (I use this design with additional inductors switched in parallel with L1 for use up to 15 m.) Adding a 33k or so resistor from the wire connecting the switch sections to the top of the 27 ohm resistor will give you a meter deflection when in the OP position, so you have an indication of tx output.

I've used this circuit for many years.

Roy Lewallen, W7EL

1910. Re: Need electronic project - where kan I find projects on the Internet?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <habi.827745744@bauv111>
Source record: 106538
Cross-posted to:
alt.engineering.electrical,alt.bbs.pcboard,alt.electronics.analog.vlsi,rec.radio.amateur.homebrew,sci.electronics.cad

stephen@pixie.co.za (Stephen Schoonees) writes:

>Hi

> I'm a second year electronic student and need a project for one of
>my subjects.

What are these subjects ?
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

1911. FREE - scrounged electronics gear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: mod@world.std.com
Message-ID: <Dou8Kr.DrA@world.std.com>
Source record: 106539
Cross-posted to: athena.forsale,ne.forsale,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap,wstd.forsale

About a year ago I rescued the items listed below from some lady's front yard where she was preparing them (with regrets) to be tossed. I gather that they belonged to a now-gone husband or son. Condition of the items is unknown, though I can say that I see no obvious defects except the amp is missing a tube. I haven't even powered them up and don't intend to. If you want one piece I wish you'd take all three, but please don't snag all three if you'll really only use one. Pickup near MIT, Cambridge:

- Knight KG686 RF generator
- Knight KG688 Sine/Square wave generator
- Heathkit W4B amplifier (audio?)

Regards,

Michael O'Donnell mod@std.com

Note: I posted essentially this same offer about a year ago, got quite a few eager replies and I was looking forward to the satisfaction which I assumed would come from giving the gear to a good home. However, I had so much trouble corresponding via email that I'm sure a number of people got pissed off wondering why I wouldn't communicate with them, and I *know* the whole mess just disgusted me - so much so that I finally got sick to death of bounced email and wrong addresses and just threw all the gear in my basement. So, please - don't contact me unless you know for sure that your message will have a *VALID* email address in it to which I can reply. Also, if the last time was any indication, you needn't bother replying if this message is more than a day or two old - just assume the stuff is gone. Thanks.

1912. Low Frequency Counter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: ranecurl@engin.umich.edu
Message-ID: <4j7571$cpu@srvr1.engin.umich.edu>
Source record: 106540

I need a simple (cheap) low frequency timed counter with an LCD display. Frequencies up to ca. 100 cps; timing intervals of the order of 10-50 seconds. Seems simple enough, but I have not seen a kit or even small (ca. 5 digit) LCD display at a low price. Suggestions?

Rane L. Curl N8REG

1913. Heat Sinks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: Toby <kb0sme@www.prairieweb.com>
Message-ID: <4j5742$cdh@news.tcd.net>
Source record: 106541

I need some heat sinks. Any thing 4" X 6" or larger wanted.
If anyone has any or information please call (308) 632-8628, or E-Mail
info.

Thanks;
73

Toby KB0SME
kb0sme@www.prairieweb.com

1914. Re: Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: peake@dstos3.dsto.gov.au
Message-ID: <peake.162.003EBB8E@dstos3.dsto.gov.au>
Source record: 106542

>NF = 10 log[(Eni^2) / (Et^2)]

> = 10 log[(Et^2 + En^2 + (In^2 * Rs^2)) / (Et^2)]

In a 50 ohm RF system, I find the following useful:

input noise power(in dBw) =
-174 + 10*log10(Bandwidth) + 10*log10(Noise Factor - 1)

Noise Factor is 10*log10(Noise Figure)
-174 + 10*log10(Bandwidth) is the noise in 50 ohms at room temp.

e.g. for a system with 2dB noise figure and 2400 Hz bandwidth,
the input referred noise is

-174 + 33.8 - 2.3 = -142.5 dBw or -112.5 dBm which is about .53 uV rms

Alan

1915. Re: Baycom TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4j6r75$puh@cloner4.netcom.com>
Source record: 106543

Baytek is a software packages that uses a very simple modem. The schematics for it are included in the documentation I beleive. I have also seen old Bell 202 modems converted for baycom use.

SParky KI5GY

In <4iru7a$gc2@sphinx.Gsu.EDU> firedrak@gstv.gsu.edu (Bobby Ratliff) writes:
>
>Does anyone know where I can get the prints for a baycom clone? I am
>wanting to build my own tnc and can't seem to find the prints anywhere.
>
>Thanks,
>
>Bobby R. Ratliff
>KD4MKB
>firedrak@gstv.gsu.edu
>brratl01@msuacad.morehead-st.edu
>

1916. Re: SSB generation/crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4j5v0s$bt6@newsbf02.news.aol.com>
Source record: 106544

Methods of SSB generation are discussed in detail in the ARRL Handbook.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1917. Re: Heat Sinks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4j5v1f$bt7@newsbf02.news.aol.com>
Source record: 106545

The surplus dealers listed in the ARRL Handbook often have heat sinks of various sizes. In addition, C&H (800 325 9465) has a large sink in their current catalog.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1918. Re: Help w/conductive epoxy

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4j6380$16m@mentor.telis.org>
Source record: 106546

There is some material made by a company called Circuit Works that is sold by some of the big catalog outfits.It's expensive too,$14.95 for a little supply! 73 Ken W6GHV

1919. Re: HowTo reduce HR2600 pwr ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: n7tcf@primenet.com
Message-ID: <4j65ci$mgp@nnrp1.news.primenet.com>
Source record: 106547

>Is there a way I can reduce the HR2600 power output using internal
>controls so that I can feed the needed low power to a transverter,
>rather than by heating up the shack with an external attenuator?
>
>John, KM6LJ

I used a miniature relay to substitute for the shorting board in the final's current circut. Using the normally-closed contacts, full-power is availible. When the transverter is on, it energizes the relay and makes the final almost dead. The output will vary, but I get about 1/2 watt at the antenna jack. You can bring the relay coil wire out through that molex jack.

Jim N7TCF
n7tcf@primenet.com

1920. Re: Realy amazing kits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: hcooper@vidiot2.corp.es.com
Message-ID: <4j69fi$5l6@vidiot2.corp.es.com>
Source record: 106548

Ah, comon.....tell us where we can order these....

Radio Shack doesn't carry them, so I just don't know
where to go...

keep smilin' :-)

--
Harrison Cooper	email : hcooper@es.com
Hardware Design	Phone : 801-588-7929
Evans & Sutherland Computer Corp.	Radio : N7KST 147.04 R,
Salt Lake City, Utah 84158	1G617 Davis County ARES 147.42 S

1921. Re: HowTo reduce HR2600 pwr ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4j6bit$5lv@dfw-ixnews4.ix.netcom.com>
Source record: 106549

>
>>Is there a way I can reduce the HR2600 power output using internal
>>controls so that I can feed the needed low power to a transverter,
>>rather than by heating up the shack with an external attenuator?

There is a pot for adjusting the output power, I used a simple switch
mounted to the side that would select one of two pots for high and low
power.

1922. Crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9602258277.AA827772952@mails.imed.com>
Source record: 106550

Isaac:
Actually it is *easier* to make SSB crystal filters by
starting at a *higher* frequency. Your idea of multiplying the audio
by four, modulating and then dividing has a lot of fundamental flaws.
Your original, basic idea is actually quite feasible!

You didn't put a call sign or address in your message so I
don't know where in the world you are. If in the US, get a copy of
the ARRL handbook and read the part on SSB about 20 times (At least
that's how many times it took me when I started :<)).

There are some very good articles about using microprocessor
crystals for sideband filters. One article in particular describes
filters appropriate for both USB and LSB. The filter configurations
are different for the 2 types. There have been about 7 articles in
QST and one or 2 in Communications Quarterly on this subject. I have
built filters for 4MHz and 16 MHz that very closely matched the
predicted responses. It will take a while for me to track down all of
the article references, but I keep a photocopy of all the good ones
right here in my desk for reference. You will need a large batch of
crystals in order to get enough of them matched closely enough to make
2 good filters.

One additional note: it is *much* easier to make good transmit
filters than it is to make good receive filters. The reason for this
is that you can do a lot of the filtering necessary at audio
frequencies. Then the filter only needs to have good attenuation at
the carrier and the opposite sideband. The passband of the filter is
less critical as long as it is wide enough to pass the desired
sideband.

Feel free to e-mail direct if you have questions.

Ray Mack
WD5IFS
mack@mails.imed.com

1923. Diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: jacosta@hiline.net
Message-ID: <4j6k0u$277@mercury.hiline.net>
Source record: 106551

Does anyone know what a diplexer is, and what makes one up? Can a differential coupler be used to model it?

Thanks

1924. Cheap 6Mts!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: newet@ul.ie
Message-ID: <newet.11.001189CD@ul.ie>
Source record: 106552

Hi,

I recently saw a small article regarding conversions of 27Mhz equipment to
50Mhz.I wonder if anybody had anymore info.
I would be very grateful.

Regards Robbie...EI8ESB

mac@ul.ie

1925. help data for tube TH3T 1100

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: maillet@ensm-douai.fr
Message-ID: <4j6muk$dse@netserver.univ-lille1.fr>
Source record: 106553

```
hello, pse help me
y want to used tube CFTH
TH3T 1100 for ampli-lineare HF
tnx
maillet@ensm-douai.fr
```

1926. 10 Ghz Gunplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: byron_hellewell@out.trw.com
Message-ID: <1996Mar25.100441.1531@batman>
Source record: 106554

I am trying to locate the 73 magazine articles that describe using two gunnplexers as a high speed data link for packet.

Any help would be appreciated.
Thanks
Byron WB7ACJ

1927. LNA input design problem (double match ?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: elendir@enst.fr
Message-ID: <4j70ac$a0l@tempo.univ-lyon1.fr>
Source record: 106555

Hi -
once more, a question. :-)

In the process of designing an (hypothetic) input stage for my 50 MHz transverter, I have, of course found some good filters that are 50 ohms input and output.
I have also selected an appropriate Dual-Gate MOSFET (BF 998) given for less than 0.4 dB @ 50 MHz.

The classical design process would be, regarding the input :
to design an input-impedance matching network to xform the 50 ohms into Gopt.

But, if I do this and connect the filter to the input design, its characteristics shift, because the input network does not transform the Yin of the BF998 into 50 ohms !

What am I to do ?

How to design an input stage that will both xform :
50 ohms into Gopt to be seen by the BF998 AND
Yin into 50 ohms to be seen by the filter ?

Thanks !
Vincent

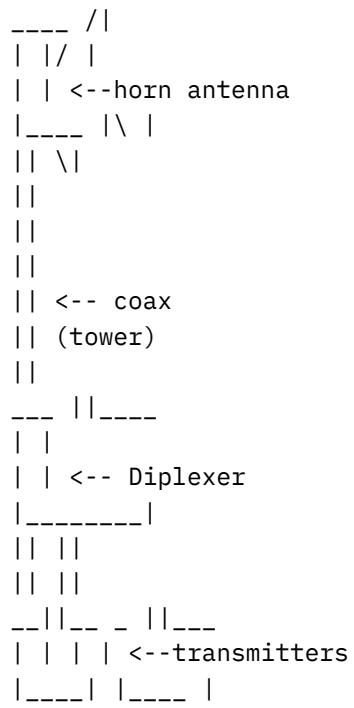
--
Fox 5 RCS - Round the world and beyond through amateur radio.
VAL D'AOSTE / VALLE D'AOSTA : Le tresor des Alpes / Il tesoro delle Alpi.

1928. diplexer design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: jacosta@hiline.net
Message-ID: <4j75pc$6qi@mercury.hiline.net>
Source record: 106556

the project I am working on requires a diplexer to be designed:

Transmitter:



XMTR#1 XMTR #2

In this system, the outputs of two transmitters operationg at
different frequencies are combined using a device known as a
"diplexer", are sent up a long cable to the top of the tower, and are
transmitted using a horn.

The diplexer, to operate, must take energy from transmitter #1 and
deliver it to the antenna, without letting any enrgy get to
transmitter #2, and vice versa.

What I was wondering is how a diplexer design can be acheived. That
is after BP filtering the desired frequencies from each transmitter
with parallel stubs, can I just connect the two XMTR output lines and
expect them to mix?

Thanks for responding.

>
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

1929. Murata filter ques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: Rick Stealey <res@cmprime.att.com>
Message-ID: <4j75vb$267@anchor.cis.att.com>
Source record: 106557

Anyone know what BW this filter is?
Murata CFM-455-D1

Is this an AM bandwidth, FM, SSB? I found it in a homebrew
circuit hanging off of a CB set in a hamfest. The original
homebrewer 15 yrs ago obviously knew what he was doing, but for
some (?!) reason the schematic wasn't included in the $2 price !

Thanks,
73,
Rick KT2Q

1930. Re: Diplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4j76v4$36r@hpcvsnz.cv.hp.com>
Source record: 106558

jacosta@hiline.net wrote:
: Does anyone know what a diplexer is, and what makes one up? Can a

A circuit that splits a broad spectrum into two narrower segments, for example for using a 146MHz/440MHz antenna with two rigs or a dual-band rig with separate antenna connectors for each band; or using a single-connector dual-band rig with two antennas.

: differential coupler be used to model it?

Differential coupler? If you are thinking "directional coupler," then no, they are not at all the same.

I made a satisfactory diplexer from a small handful of coils and pF-range capacitors, three BNC connectors, and some copper-clad board. There have been designs in QST.

--
Cheers,
Tom
tomb@lsid.hp.com

1931. Trying to locate SB220 parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: edosan@ix.netcom.com
Message-ID: <4j7b99$ifq@dfw-ixnews6.ix.netcom.com>
Source record: 106559

I am trying to locate parts for my Heathkit SB-220 amp. I have been told
that there is a company in Florida called "Harbach Electronics".
I have not been able to locate them. If anyone has the phone number or
knows the city it is located in, please drop me a line. If anyone knows
of any other sources for SB-220 parts, I would love to hear about them
as well.......Thank You

1932. Re: 10 Ghz Gunplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4j7sbo$2rp@newsbf02.news.aol.com>
Source record: 106560

Wasn't that in Ham Radio mag? Late 80's I think. It also is described in the 1992
Radio Amateur Handbook.

REgards,
Viny Coppola

1933. DTMF Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-25 00:00:00 UTC
From: Patrick Millar <millarp@midwal.ca>
Message-ID: <3156BC6F.15B6@midwal.ca>
Source record: 106561

Hello,

I am looking for a DTMF decoder chip. Can anyone recommend a particular model?

Patrick Millar VE3BFC
millarp@midwal.ca

1934. Re: Trying to locate SB220 parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: jastorm@ix.netcom.com
Message-ID: <4j8dhk$q3g@ixnews3.ix.netcom.com>
Source record: 106479

edosan@ix.netcom.com (Edward) wrote:

>I am trying to locate parts for my Heathkit SB-220 amp. I have been told
>that there is a company in Florida called "Harbach Electronics".
>I have not been able to locate them. If anyone has the phone number or
>knows the city it is located in, please drop me a line. If anyone knows
>of any other sources for SB-220 parts, I would love to hear about them
>as well.......Thank You

According to QST, Heath still sells parts. Try:

Heath Order Desk
P.O. Box 1288
Benton Harbor, MI 49023-1288
(616) 925-5899/4914

73, Jim WB6LWS

1935. Re: 10 Ghz Gunplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <315807C2.12CE@arrl.org>
Source record: 106480

byron_hellewell@out.trw.com wrote:
>
> I am trying to locate the 73 magazine articles that describe using two
> gunnplexers as a high speed data link for packet.
>
> Any help would be appreciated.
> Thanks
> Byron WB7ACJ

try this link:

ftp://col.hp.com/hamradio/packet/n6gn/uwavelink/uwv.html

Zack KH6CP/1

1936. Digital Voltmeter circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4j93s0$bt2@newsbf02.news.aol.com>
Source record: 106481

Hello -

I would like to use digital display for an az-el rotator system. What is needed are 2 dedicated
DVMs capable of reading 3.60 and 9.00 volts respectively... Obviously I do not want to tie up
multiple DVMs. Seven segment LED display would be ideal.

From what I have found on my own, it looks fairly simple using an A/D converter and PC. Close,
but still not practical.

Does anyone have a handy volt meter circuit for driving LED (or LCD) displays from an A/D - or
point me in the right direction?

Are there alternatives? I thought about using a timer chip and counter. But that seems overly
complicated and harder to calibrate.

Thanks...

Bill K2EK

1937. Rechargeable Battery Source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: jhill@timewave.com
Message-ID: <4j98u5$n2r@cobra.Minn.Net>
Source record: 106482
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Does anyone have a source for either Nickel Metal-Hydride or Lithium-Ion type cells? I am particularly interested in AA cells. It seems that none of the big HT battery pack dealers have any. Thanks in advance...John

John Hill NJ0M
jhill@minn.net

1938. Re: Crystal Parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.OSF.3.91.960326190619.2525C-100000@biggulp.callamer.com>
Source record: 106483

Hi Simon....that's tough! During WW2 there were a number of crystal bridges around that might be had. Modern test equipment for crystal manufacture is available but rather costly. You might be best to look for one of these older crystal bridges..Cliff Buttschardt W6HDO

On Tue, 26 Mar 1996, M Simon wrote:

>
> How can I measure the L & C values for a quartz crystal.
>
> R is easy but L & C stump me.
>
>
> Simon
>
>
>

1939. Ethernet to IR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: snyder@frugal.com
Message-ID: <4j9c0m$37h@harold.frugal.com>
Source record: 106484

Help!
Several years ago I saw a discussion on using 10base2 ethernet cards connected to InfraRed emitters/detectors fo a high speed link. It seems a $20 10MBps card and some 'simple' IR gear will make a very nice high speed point to point link. The problem is, of course, I can't find the information I saved and surfing hasn't helped. I'm pretty sure it was a ham usnet group that was discussing this stuff around 1992.

Any help or pointers ?
Thanks
G
N7QAM

1940. Re: Murata filter ques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: Vlad <dvorkin@pcs.mot.com>
Message-ID: <4j91nu$bor@newdelph.cig.mot.com>
Source record: 106485

CFM455D filter has +/- 7.0 KHz @ 3 dB bandwidth and +/- 20 KHz @ 60 dB bandwidth.
It is a AM filter.
Vlad

1941. >>>>HELP - Small VHF Xmitter for Airborne Telemetry<<<<

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: BlueSky@tiac.net
Message-ID: <315852A6.31B3@tiac.net>
Source record: 106486

Can someone help me by pointing me to a schematic or an article of a small VHF transmitter? It is
to be used to relay telemetry from a series of high altitude rockets. Following are the (desired)
specs:

Frequency: 2m band or nearby; XTAL controlled;
RF Power: 50-250 mW output;
Supply: 9-12 VDC (battery);
Modulation: N/A

Complexity (ie. size and weight) should be as low as possible, as should the cost - lets face it -
the typical life of these devices will be measured in minutes. I would preffer to build the xmitters myself as integral part of a telemetry package.

I have hundreds of various scanner crystals that fit in this category. They have fundamental
frequencies around 16MHz, but I don t really know if I can use them for this project.

I would very much appreciate any help in this matter. I can be also reached at

mailto:BlueSky@TIAC.net

My thanks to all those who reply!

73s

Chris (WR1F)

1942. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <4j95gv$p3t@freenet-news.carleton.ca>
Source record: 106487

MHorn22377 (mhorn22377@aol.com) writes:
> I am looking for an eighteen inch parabolic dish for a project. I only
> need the dish and not any electronics.
>
> If anyone knows where to get this inexpensively(<$30), please E-mail me.
>
KA9LNV shows how to build a stressed dish in "Mode S, The Book", using
fishing line, wood dowel rod, and hardware cloth.

I imagine the cost would be well under $30.00.

1943. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: smackay@epix.net
Message-ID: <NEWTNews.827878233.24244.smackay@epix.net>
Source record: 106488

In Article<4iais1$dp8@harbour.awod.com>, <glittle@awod.com> writes:

> In article <4i9iij$9n8@hpcvsnz.cv.hp.com >, tomb@lsid.hp.com (Tom Bruhns) says:
> >
> >WB3U (jackl@pinetree.microserve.com) wrote:
> >
> >..
> >
> >: The best protective finish I have found for electronic parts is
> >: polyurethane varnish. It's somewhat more brittle than other oil-based
> >: varnishes, but is probably the toughest single-part, air-dry finish
> >: on the market. Once it has fully cured (usually three to four weeks),
> >: polyurethane is nearly as hard as baked enamel. The only drawback to
> >: polyurethane is its deterioration in sunlight, but marine and exterior
> >: versions are available with UV blockers that will significantly extend
> >: the life of the finish under adverse conditions.
> >
> >..
> >
> >Thanks to Jack for a nice posting on using polyurethane varnish. I had a
> >brief email exchange with Jack about one issue that remains in my mind, and
> >agreed to post it here to see if anyone has any difinitive info on it.
> >
> >My concern is that polyurethane has a rather high dissipation factor.
> >It was a little hard to find listings, but looks like about 0.05,
> >compared with .0002 or less for polystyrene, polyethelene and Teflon.
> >So the question is, given that it's used in a rather thin coating, does
> >that really make any difference? Has anyone actually measured the
> >unloaded Q of a cavity before and after coating with any type of clear
> >coat, whether it's polyurethane or acrylic or something else?

> >
> >--
> >Cheers,
> >Tom
> >tomb@lsid.hp.com
>
>
> A microwave oven can be used to determine relative loss of different
> materials to RF.
> Heat the material in the microwave oven for a short time.
> Include a cup of water as a load.
> The hotter the material gets, the lossier it is to RF.
> I have some bowls the expoded in the microwave oven due to disipation.
>
> 73
> Glenn Little
> WB4UIV
Glenns microwave Idea is a good one. I chill the object in the freezer
first. Seems to make it easier to note temperature differences.
73
w7gsm

1944. HELP.... New ham needs simple design for HF transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: scottr@dimensional.com
Message-ID: <4j9ieb$4i6@nova.dimensional.com>
Source record: 106489

I need a simple design for an HF transmitter (A-1) that generates at least 50 watts of power input and is variable frequency.

Please send info to "scottr@dimensional.com"

Thanks!!

1945. Thermistor mounts needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <96086.214223IFF161@DJUKFA11.BITNET>
Source record: 106490

I would like to obtain one or two thermistor mounts for a microwave power meter so I can study the construction and maybe also ways to get dead ones up and running again. I would like the sort for coaxial cable, not for waveguides. I would expect to repay you the cost of shipping and something besides for the help and trouble. I do not anticipate finding anyone offering functioning mounts, though I welcome any offers for those if you have one gathering dust!

Bob<iff161@DJUKFA11>

PS I don't care much about who made them; I'll probably learn as much from any decent brand and there have been several companies who made them.

1946. 6 or 7 port reflectometer for getting s parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: klopfer@natinst.com
Message-ID: <4jafck$gdr@eagle.natinst.com>
Source record: 106491
Cross-posted to: rec.radio.amateur.homebrew,sci.physics.electromag

I've been looking at some articles on 6/7 port reflectometers. I'm wondering if anyone has used such a device to get s parameters of a device. I'm looking for an inexpensive alternative to a network analyser. Several of the articles have mentioned using the method of "sliding terminations" to calibrate these. Does this method involve the use of another calibrated device to calibrate the reflectometer? Are there inexpensive devices that have a variable calibrated impedance in the 1-10GHz range? One article on calibration of these reflectometers had a diagram with one block for a variable phase shifter and on block for a variable attenuator. Does anyone have a suggestion for specific devices that could be used for these functions. Thanks for the help.

mike

1947. Re: Digital Voltmeter circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: lumkes@cae.wisc.edu
Message-ID: <4j9r2f$1m0i@news.doit.wisc.edu>
Source record: 106492

I would like to use digital display for an az-el rotator system. What is needed are 2 dedicated
DVMs capable of reading 3.60 and 9.00 volts respectively... Obviously I do not want to tie up
multiple DVMs. Seven segment LED display would be ideal.

Try National's LM3914 10 segment LED driver. You just need the chip, some resistors, and a 10 segment LED display (Radio shack has them) and your set to go. I think I saw a design using this in last years 73' (I think, I can look it up if you want). JDR carries the chip for just over $2. I also have a book "Intro to Op-Amps" which shows the circuit. If you want more info feel free to email me.

Thanks, John
lumkes@cae.wisc.edu
AA9QP

1948. Re: Digital Voltmeter circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4j9sjj$kbg@newsbf02.news.aol.com>
Source record: 106493

If you really like to "roll your own", you can knock something together with some A/D chips and a couple of displays. You might be able to cobble something together with a Parallax Basic Stamp and an LCD display from Scott Edwards.(Computer control might be nice. The chip has simple A/D capabilities.) Or, you could just BUY two digital panel meters from someone...Digikey carries 'em, I know.

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

1949. Re: Murata filter ques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.OSF.3.91.960326160137.29006C-100000@biggulp.callamer.com>
Source record: 106494

Rick, your CFM455D filter is a ceramic unit in which the 3db bandwidth is plus/minus 7 KHz,the six db BW is +/- 10 KHz with 3 db passband ripple. The BW at 60 db is +/- 20 KHz. The input and output impedance is 1500 ohms and the loss is 3 db..73 Cliff Buttschardt W6HDO

On 25 Mar 1996, Rick Stealey wrote:

> Anyone know what BW this filter is?
> Murata CFM-455-D1
>
> Is this an AM bandwidth, FM, SSB? I found it in a homebrew
> circuit hanging off of a CB set in a hamfest. The original
> homebrewer 15 yrs ago obviously knew what he was doing, but for
> some (?!) reason the schematic wasn't included in the $2 price !
>
> Thanks,
> 73,
> Rick KT2Q
>
>
>

1950. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ja09n$lrh@newsbf02.news.aol.com>
Source record: 106495

In article <NEWTNews.827878233.24244.smackay@epix.net>, smackay@epix.net writes:

> > The hotter the material gets, the lossier it is to RF.
> > I have some bowls the expoded in the microwave oven due to disipation.
> >
> > 73
> > Glenn Little
> > WB4UIV
>Glenns microwave Idea is a good one. I chill the object in the freezer
>first. Seems to make it easier to note temperature differences.
>73
>w7gsm

Perhaps that test should be qualified a little more. The hotter the material gets, the lossier the material is when subjected to microwave frequency electromgnetic fields!
That test doesn't necessarily indicate loss at other frequencies, or for one field or another! For example, a tree provides very little absorsion of HF electromagnetic fields,yet it will almost totally absorb microwave frequency energy. A magnetic material may be very low loss at HF, and extremely dissipative at UHF or higher.

:-)
73 Tom

1951. Re: Rechargeable Battery Source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: ddenter@nortel.ca
Message-ID: <4j9j8d$jhc@bcarh8ab.bnr.ca>
Source record: 106496
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4j98u5$n2r@cobra.minn.net>,
jhill@timewave.com (John Hill) writes:
>Does anyone have a source for either Nickel Metal-Hydride or Lithium-Ion
>type cells? I am particularly interested in AA cells. It seems that none
>of the big HT battery pack dealers have any. Thanks in advance...John
>

Try the RC hobby suppliers/magazines, the battery distributors seem
to target the radio control guys more than hams. I've been getting
most of my cells from Tower Hobbies (Sanyo Cadnica cells -- they also
have NiMH cells (with and without solder tabs)), they seem to have
better prices than the ham suppliers do (not an ad, just a satisfied
customer).

regards,
Dean.
--
Dean Denter work -> ddenter@nortel.ca
VA3CDD play -> ddenter@magi.com
[[[[[[[[[[[[[I speak only for myself]]]]]]]]]]]]]

1952. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Mar26.161701.490@nad.com>
Source record: 106497

In article <4j95gv$p3t@freenet-news.carleton.ca>, ae517@FreeNet.Carleton.CA (Russ Renaud) writes:
> MHorn22377 (mhorn22377@aol.com) writes:
>> I am looking for an eighteen inch parabolic dish for a project. I only
>> need the dish and not any electronics.
>>
>> If anyone knows where to get this inexpensively(<$30), please E-mail me.
>>
> KA9LNV shows how to build a stressed dish in "Mode S, The Book", using
> fishing line, wood dowel rod, and hardware cloth.
>
> I imagine the cost would be well under $30.00.

MCM Electronics (don't have the number handy) sells replacement off-center fed 18" dishes (DBSS style). They're about $15, I think. N1BWT wrote an article in QEX a month or 2 ago on how to mount-n-feed em for 10Ghz. They work very well - a friend of mine has one up and running. I would too if I hadn't already picked up a 24" dish for quite a bit more :(
I'll try to find the MCM's number later and post it.

73,
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

1953. Re: HOMEBREW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: ldesot@atl.com
Message-ID: <1996Mar26.143636@atl.com>
Source record: 106498

In article <4j9pad$nq2@news.campus.mci.net>, jballantine@campus.mci.net (Jewels) writes:
> I am looking for a homebrew newsgroup. This was the closest I got to
> one and it looks like I am at the wrong spot. Pleaasssee, can someone
> point me in the right direction?
>
> Julie
> jballantine@campus.mci.net

I guess it depends on what you want to homebrew. If it's electronic
equipment, you're in the right spot. If it's beer, try
rec.crafts.winemaking or rec.crafts.brewing, If it's homebrew sin,
try the alt newsgroups.

--
Larry **********
* *
* Speaking for myself *
* *
****

1954. Re: Digital Voltmeter circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDow47A.3z3@netcom.com>
Source record: 106499

In article <4j93s0$bt2@newsbf02.news.aol.com> k2ek@aol.com (K2EK) writes:
-Hello -
-
-I would like to use digital display for an az-el rotator system. What is
-needed are 2 dedicated
-DVMs capable of reading 3.60 and 9.00 volts respectively...

There are tons of surplus panel-mount digital meters out there for about
$10-$15 out there. Even Rat Shack has one (277-303, RSU11461498) for $19.
Look in the back of Popular Electronics or Electronics Now...

These are all digital voltmeters with a 0-199mV range. Just feed it
with a resistive divider to scale it. It's a lot easier than building your
own. If you reall want to build one, look at the old Intersil 7106 and
7107 chips; that's what is used in most of those panel meters,

/mike
--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- --- Boston Amateur Radio Club: http://www.barc.org/barc --- -*-
/|\ or send "info barc-list to listserv@netcom.com /|\

1955. Re: Digital Voltmeter circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDowqM7.BDx@netcom.com>
Source record: 106500

in <4j93s0$bt2@newsbf02.news.aol.com>, K2EK wrote:
: I would like to use digital display for an az-el rotator system. What is
: needed are 2 dedicated
: DVMs capable of reading 3.60 and 9.00 volts respectively... Obviously I do
: not want to tie up
: multiple DVMs. Seven segment LED display would be ideal.

Why not, you can get digital panel meters or radio shack grade pocket DVMs real cheap. Jameco has some LCD DPMs for $15 in the last catalog I checked. Bound to be some LED units in the surplus market.

If you want to roll your own, the common DVM chips are the 7106, 7107, '16, '17, '26 from Harris (formerly Intersil), Telcom (formerly Teledyne Semi.) and Maxim. (Digikey sell both Harris and Telcom, about $5 for the chip.) One type is has a multiplexed LED driver (the '7 chips) , the other drives LCD displays (the '6 chips). These are 2000 count dual slope integration method voltmeters in a single chip. Good for +/- 2.000 volt or 200.0 mV as normally used, but you can use another reference voltage and get any calibration you want within the chip's range, and divide it down if it's bigger. Be aware, the datasheets on these chips are kind of murky.

Harris has a good web site (I think it's www.semi.harris.com).

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

1956. DAYTON FLEAMKT SPACE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: mai@iquest.net
Message-ID: <DovrwH.9Cq@iquest.net>
Source record: 106501

The lotto for spaces closed on Feb 5, 1996 and with the 'drawing' following shortly after (read couple weeks)
Yes, it's a full house, and those lucky to get picked should be seeing info in their mailbox, those not so lucky
will get back their checks. The Hamvention has a website:

http://users.aol.com/hamradioclub/dayton.html

You'll also find links from most amateur mgfrs and the ARRL websites.

NOW - THE IMPORTANT STUFF! I'LL BUY YOUR SPACE & TICKET!!!

GOT SPACES - FOUND OUT YOU CAN'T ATTEND? EMAIL ME!!! I'm looking for one, two, or three spaces and
Vendor Passes! No, I'm not brokering - I want for my own use. Having been going to Dayton since 1965, this is
only the second time I've had to scrounge for space! If you're brokering and looking to fund a new rig - save the
email.

Chuck Hawley's comments about the hassle to work within the rules is on target - as always - too many chiefs in
the DARA tribe and the poor little Indians are going eight ways at once. But, it is Dayton!

Patrick Croft WB9IQI (317)257-6811 Fax (317)257-1590 EMAIL : mai@iquest.net

1957. Re: X-Tal / Stable TX's???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4j9amd$l4p@hpscit.sc.hp.com>
Source record: 106562

In article <Pine.SGI.3.91.960321170935.12148B-100000@umbc9.umbc.edu>,
mooney patrick (bs cmsc) <pmoone1@gl.umbc.edu> wrote:
>
> Help! If anyone could help me find information or possible e-mail info
>to me on the contruction of stable VHF transistor based transmitters
>using crystals or cap/coil oscillators. Any frequency within the range
>30MHz - 200MHz is what I'm looking for. The info I find on XTAL
>transmitters in most books require either large circuits or are vague in
>their construction.
>
> I'm not looking for power since the maximum range will be > 1000 feet,
>but fewer components and small size are critical. Any help would be
>greatly appreciated.
>
>
> Thanks.
>
> - Patrick Mooney
>

Step 1: Build an LC Colpitts oscillator that oscillates at the frequency
of interest (no xtal yet). Be sure to put in an adjustable capacitor so
you can tune the frequency to within 1% of the crystal frequency.

Step 2: Now insert the xtal in series with the emitter as far as RF current
is concerned; you'll need some other method of DC return since DC can't
go thru the xtal.

Step 3: Adjust tuning capacitor (see step 1) for maximum output power.

Step 4: If desired, put a 10 to 60 pF. trimmer capacitor in series with
the xtal to trim frequency.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

1958. Plans for 2m SSB 10w-to-??? Linear Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: boardman@cobra.unm.edu
Message-ID: <4j99o8$rqk@lynx.unm.edu>
Source record: 106563

I've been looking for a linear amp to use with my Icom IC-211 2 meter all-mode rig, which only puts out 10 watts. Most of the commercial amps I've seen are either designed for HTs and use 2-5 watts in for 30-40 watts out, FM only, or are desinged for the newer and more powerful all-mode rigs and use 25 watts in for 150 watts out. The 1996 _ARRL Handbook_ only has plans for a 2m "brick", for FM only. If anyone knows of a commercial amp that meets these requirements, I might consider it, but I'm leaning towards building my own at this point. If anyone knows where I might find a good set of plans for such an amp, I'd appreciate a pointer. I'm open to either an all solid state or a tube design, that could be built by someone with a modest amount of experience in kit building.

TIA,

-Bob

=-=-=-

1959. Re: Murata filter ques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4j7dfk$c5h@nntp.Stanford.EDU>
Source record: 106564

In article <4j75vb$267@anchor.cis.att.com> Rick Stealey <res@cmprime.att.com> writes:
>Anyone know what BW this filter is?
>Murata CFM-455-D1
>
>Is this an AM bandwidth, FM, SSB? I found it in a homebrew
>circuit hanging off of a CB set in a hamfest. The original
>homebrewer 15 yrs ago obviously knew what he was doing, but for
>some (?!) reason the schematic wasn't included in the $2 price !
>
>Thanks,
>73,
>Rick KT2Q
>

From the Murata catalog, The CFM-455-D (did not see a D1 suffix listed)
has the following specs:

Center Freq.: 455KHz
3dB BW: +/-7KHz (min)
6dB BW: +/-10KHz (min)
Ripple 3dB (max)
60dB BW: +/-20KHz (max)
Insertion Loss: 3dB (max)
In/Out Impedance: 1500 Ohms

Steve Muther WF6R

1960. Re: HTX-202 Deviation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: dwyer@intnet.net
Message-ID: <4j7f03$t4j@mercury.IntNet.net>
Source record: 106565

jkesling@shell.portal.com (John Darrell Kesling) wrote:

>KE6VOT wrote:
>>Hi,
>>I was tring to use autopatch but my I was not successful.
>>Talking to another ham, who had been listening to my attemp,
>>told me that my deviation was weak. How do I change this on a
>>HTX-202. I'm also new at this so simplistic instructions would be
>>helpful.
>> Thanks,
>> Steve
>>KE6VOT
>>e-mail swlease@ucdavis.edu

>The HTX-202 has 3 deviation adjustments:

> RV1 Microphone
> RV1001 DTMF
> RV1002 CTCSS

>You will need to locate RV1001 for your adjustment. For best results
>you should have a deviation meter or some other way to measure the deviation
>as you make the adjustment and adjust for 3.5-4Khz of deviation. You
>may be able to obtain acceptable results by the tweaking method though.

>I seem to remember a different problem with the HTX-202 that caused
>problems with some autopatches. It's been a while since I owned one
>and this is from memory since I no longer have the operation manual.
>But what I remember is a setup option that would keep the transmitter
>keyed for a period of time after pressing one of the DTMF keys. This
>time delay was too long for some autopatches. Turning this option off
>may take care of your problem. It's worth a try and much easier than
>opening up the radio.

>73 - John
>--
>---
>John Kesling - jkesling@shell.portal.com or jkesling@norden1.com
>---
> WA8ZGO - via AX.25 packet radio WA8ZGO@W8HHF.OH.USA
>---

The radio comes apart real easy. Four screws on the bottom (after you
remove bat pack) one screw on back. Try to memorize how the battery
attachment goes on, be careful here. The rv1 mic adjustment is
backward, ccw=increase gain. Never tried the other pots. I think RV1

will bring up the TT levels as well as the mic gain. This pot is
labled MIC also and you can see it has a blue shaft (in my radio)
Mike WB9EKT

1961. Re: Help w/conductive epoxy

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: jimbob@acpub.duke.edu
Message-ID: <315740a1.2066882@news.duke.edu>
Source record: 106566

dgf@netcom.com (David Feldman) wrote:

>holes (there isn't a good way of drilling into the trunk lid anyway) and I
>can't think of any other way of attaching wire braid to the metal body parts.

Most hoods and trunk lids are bolted to the hinges. Just remove one
of the bolts and clean the paint off before you replace the bolt with a
good sized electrical terminal lug and a "star" washer under the head. No
drilling OR epoxy needed. It's simple, unless I'm missing something.

Jim

1962. Re: Baycom TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: jessica <jhoo219@pop.crown.net>
Message-ID: <4j7fus$1d7@kiwi.crown.net>
Source record: 106567

hi name is toby... n9fdf.... i have print for both baycom modem
the one that use 7910 ic and one that use the xr2211 and xr 2206..
if you want them let me know...
73 n9fdf. toby.

1963. Crystal Parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <4j7gjc$spe@delta.misha.net>
Source record: 106568

How can I measure the L & C values for a quartz crystal.

R is easy but L & C stump me.

Simon

1964. HOMEBREW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: jballantine@campus.mci.net
Message-ID: <4j9pad$nq2@news.campus.mci.net>
Source record: 106569

I am looking for a homebrew newsgroup. This was the closest I got to one and it looks like I am at the wrong spot. Pleaasssee, can someone point me in the right direction?

Julie
jballantine@campus.mci.net

1965. Eimac tube info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: poo-boy@mail.freenet.hut.fi
Message-ID: <4j7thd$oqm@freenet.hut.fi>
Source record: 106570

Does anyone have the specs on an Eimac 7609?
It looks identical to a 4x150a/7034 but I cannot
find it in the ARRL book.

Thanks in advance.

1966. Re: Trying to locate SB220 parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4j80di$4cp@newsbf02.news.aol.com>
Source record: 106571

You wrote:

>I am trying to locate parts for my Heathkit SB-220 amp. I have been told
that there is a company in Florida called "Harbach Electronics".

Here is their address from the ARRL list...

Harbach Electronics
2318 S. Country Club Road
Melbourne, FL 32901-5809

de Bill K2EK

1967. Re: Trying to locate SB220 parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4j83jc$5e9@newsbf02.news.aol.com>
Source record: 106572

Harbach 407 723 7145 Good Luck.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1968. Re: Eimac tube info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4j84o3$5sc@newsbf02.news.aol.com>
Source record: 106573

From cat. 281 (1981).

7609. For renewal use only. Request data from Appl. Eng. Dept., Eimac,
310 Industrial Way, San Carlos, CA 94070. USA.

Good luck.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

1969. Re: PCB design software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4j85f5$66v@newsbf02.news.aol.com>
Source record: 106574

You'll have to pardon me, as I'm joining this thread rather late, but the heading caught my attention. I have several projects Im developing at work, most of which involve small to medium sized circuits, usually with 4 or 5 ics and a handful of discrete parts.

What would be a good (inexpensive) software package to use to translate my schematics to a pattern for a board. Does the software you propose generate an output format that I could sent to a pcb house from which they could etch and drill my boards? (Obviously paintbrush does not.) Have you used paintbrush with IC based circuits? How do you translate dimensions on the screen to dimensions on your printout? (How do you make sure that ic pads are on .1 intervals, for example.

Whats the cheapest software you can get that will autoroute or rubber band?

Please copy your comments to my email box. Thanks.

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

1970. Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: mhorn22377@aol.com
Message-ID: <4j8ttl$a3a@newsbf02.news.aol.com>
Source record: 106575

I am looking for an eighteen inch parabolic dish for a project. I only need the dish and not any electronics.

If anyone knows where to get this inexpensively(<$30), please E-mail me.

Thanks in advance,
Michael R. Horn
MHorn22377@aol.com

1971. Counter Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: George Harris <103021.3555@CompuServe.COM>
Message-ID: <4j8v9gfcq1@mhade.production.compuserve.com>
Source record: 106576
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

Hi,

I've just purchased a Heath Co. Model SM-105A Counter at a
HamFest.
Could anybody help me with a schematic for this unit? Does anyone
know where I can find LED display parts for this unit? I would
greatly appreciate it for any help on this subject.

73's

Thunder

--
Don't do anything that I wouldn't, At least don't get CAUGHT!!!!

1972. mods. for HW-99

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: jstroppe@uhl.uiowa.edu
Message-ID: <4j8vd6$s70@flood.weeg.uiowa.edu>
Source record: 106577

Any one have mods to correct the drift in a Heathkit HW-99 VFO? Have the manual, but need the schematic. thanks

John WA0VYZ

--
John Stroppel | Internet: jstroppe@uhl.uiowa.edu
The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
Iowa City, IA 52242 | Fax: (319) 335-4555

1973. Ten-Tec 1209 transverter kit: comments?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-26 00:00:00 UTC
From: ddenter@nortel.ca
Message-ID: <4j8v9u$6qn@bcarh8ab.bnr.ca>
Source record: 106578
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

has anybody got any comments on the T-Kits 1209 2M -> 6M
transverter kit?

I'm looking at this kit for my next project.

I've built the Ramsey 2M PA, and several other kits, without
too many problems, so I've got a bit of kit building
experience.

How difficult is this kit? how good is the quality?
Are there other kits that are better that do the same
thing (2M->6M)?

Is 5W output enough to get started on 6M (I can add a PA
later -- maybe as next year's project :)).

regards,
Dean.
--
Dean Denter work -> ddenter@nortel.ca
VA3CDD play -> ddenter@magi.com
[[[[[[[[[[[[[I speak only for myself]]]]]]]]]]]]]

1974. Re: Crystal Parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <315A0F1C.1C2D@netaxs.com>
Source record: 106429

M Simon wrote:
>
> How can I measure the L & C values for a quartz crystal.
>
> R is easy but L & C stump me.
>
> Simon

Actually, measuring R is just about as tricky as measuring L and C, because it's an EQUIVALENT resistance, not something you'd measure with your DVM.
The RLC values of the crystal can be accurately inferred by measuring the series resonance properties of the unit(remember, a crystal doesn't really have an intrinsic parallel resonance; it's caused by parasitic capacitance interacting with the RLC series components). Any, back to the problem...

If you have a stable frequency generator which can be manually swept over a very small range (like a few kHz), and a rudimentary power measurement device (like a HF receiver w/S-meter), then you are equipped to make an indirect measurement. Connect the generator to the receiver through a couple of 50 ohm (or other known impedance) attenutaors (exact value not important...only used to insure that the crystal "sees" a known impedance. Connect the crystal at the junction of the 2 attenuators to ground. Slowly sweep the generator through the crystal frequency until you find a "dip" in the signal level. The dip is due to the drop in crystal impedance caused by its series resonance. The depth of the dip is determined by the equivalent resistance at series resonance, and is easily calculated.

Next sweep the generator back and forth around the null point, and determine the frequencies at which the signal comes back up some predetermined amount..say 3 dB. This is the bandwidth of the resonance. Remember that the loaded Q of a resonant circuit can be expressed as Q = Fc/BW. Calculate the Q.
Remember also that Q=X/R, or X=Q*R. Calculate X (reactance), from which you can then calculate L and C.

Joe
WA3CMQ

1975. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <3159F2C1.6610@arrl.org>
Source record: 106430

William W Janssen wrote:

> Don't forget that the DSS is an OFFSET FEED type and requires
> a different feed than you would use on a center feed dish. The offset
> feed is better though.
>
> Bill K7NOM

1976. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Mar27.191354.491@nad.com>
Source record: 106431

In article <1996Mar26.161701.490@nad.com>, landisj@nad.com (Joe Landis - Systems & Network Mgr) writes:
> In article <4j95gv$p3t@freenet-news.carleton.ca>, ae517@FreeNet.Carleton.CA (Russ Renaud) writes:
>> MHorn22377 (mhorn22377@aol.com) writes:
>>> I am looking for an eighteen inch parabolic dish for a project. I only
>>> need the dish and not any electronics.
>>>
>>> If anyone knows where to get this inexpensively(<$30), please E-mail me.
>>>
>> KA9LNV shows how to build a stressed dish in "Mode S, The Book", using
>> fishing line, wood dowel rod, and hardware cloth.
>>
>> I imagine the cost would be well under $30.00.
>
> MCM Electronics (don't have the number handy) sells replacement off-center fed
> 18" dishes (DBSS style). They're about $15, I think. N1BWT wrote an article in
> QEX a month or 2 ago on how to mount-n-feed em for 10Ghz. They work very well -
> a friend of mine has one up and running. I would too if I hadn't already picked
> up a 24" dish for quite a bit more :(
> I'll try to find the MCM's number later and post it.

Me again - MCM can be reached at 800-543-4330. And yes, the feed can be tricky,
but the off center feed does move all of the obstructions out of the pattern
and can make for a much more efficient antenna. See Pauls article.
Once you establish the geometry of the system,,
you can fix a parallel rail below the dish and mount a compass and even
a crude peep site for aiming.
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

1977. Siliconix VMP-4

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <4jd3lc$r2s@newsbf02.news.aol.com>
Source record: 106432

Looking to purchase Siliconix VMP-4 FET transistors. If you have a few or a bunch you'd like to turn loose of, leave message to johnsonhe@aol.com. Device no longer made.

1978. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <3159F3FA.5849@arrl.org>
Source record: 106433

Bill K7NOM wrote:
>
> Don't forget that the DSS is an OFFSET FEED type and requires
> a different feed than you would use on a center feed dish. The offset
> feed is better though.

What type of feed you do recommend? An article by Paul Wade in the
1995 QEX indicates that a simple rectangular horn feed gives excellent
efficency, at least when compared to the best center fed dishes (10 GHz).

Zack KH6CP/1 13 grids on 10 GHz--anyone in FN23, FN24, or Montreal?

1979. Re: Crystal Parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <3159F5E4.811@arrl.org>
Source record: 106434

M Simon wrote:
>
> How can I measure the L & C values for a quartz crystal.
>
> R is easy but L & C stump me.
>
> Simon

Try measuring the unloaded Q. You should then be
able to calculate L and C.

Zack KH6CP/1.

1980. Re: Wanted Receiver for 137 Mhz, or a KIT for homebrew!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <827967904snz@lfheller.demon.co.uk>
Source record: 106435

In article <4ja0ov$sa6@ping1.ping.be> Geert.Pirens@ping.be "Geert Pirens" writes:

> Hello all of you in this area.
>
>
> Can someone help me with my problem?
>
> I like to receive the next satellites: NOAA, METEOR. But for to
> receive these sat's you must have a receiver at 137 Mhz.
>
> Now I'm loking for some information where I can buy me sutch receiver.
>
> A homebrew kitt wil also do !!
>
> All information and reactions in case with my problem is WELKOM !!!!
>
> Thanks already for those who will respons to my letter.
>
> you can also send mail via FidoNet : Geert Pirens 2:292/115.9

Maplin Electronics here in the UK on (01702) 552911 have a satellite
book with details of weather satellite Rx construction. Cirkit on
(01992) 448899 do a weather satellite Rx kit, and PC software to go
with it. Spectrum Communications on (01305) 262250 also do a weather
satellite Rx kit.

73, Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

1981. Re: SSB generation/crystal filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Mar27.164351.30960@ucl.ac.uk>
Source record: 106436

In article 5936@ke4zv.atl.ga.us, gary@ke4zv.atl.ga.us (Gary Coffman) writes:
> In article <3152C975.3E7F@ripco.com> Norman Kohn <nvk@ripco.com> writes:
> > Is it possible at all to make a filter (presumably using
> >crystals) that cuts off sharply enough (at 1000Khz) to pass one
> >sideband, but not the other?? In other words, is it practical to assume
> >I can find/build a HP and a LP filter for USB and LSB at an IF of 1
> >Mhz??

As soneone said, thats not quite how its done. However, a crystal filter with a bandwidth of 2.4kHz at 1MHz would be practical. In fact, even at 10.7MHz, filters with SSB bandwidth can be found.

If you make your IF lower, say 10KHz, then you could build active filters with op-amps to have the required selectivity, but then the image rejection would be poor.

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

1982. Wanted Receiver for 137 Mhz, or a KIT for homebrew!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Geert.Pirens@ping.be
Message-ID: <4ja0ov$sa6@ping1.ping.be>
Source record: 106502

Hello all of you in this area.

Can someone help me with my problem?

I like to receive the next satellites: NOAA, METEOR. But for to
receive these sat's you must have a receiver at 137 Mhz.

Now I'm loking for some information where I can buy me sutch receiver.

A homebrew kitt wil also do !!

All information and reactions in case with my problem is WELKOM !!!!

Thanks already for those who will respons to my letter.

you can also send mail via FidoNet : Geert Pirens 2:292/115.9

73!

Geert Pirens, ONL2057

1983. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <632.6659T915T190@nycmetro.com>
Source record: 106503

>I am looking for an eighteen inch parabolic dish for a project. I only
>need the dish and not any electronics.

>If anyone knows where to get this inexpensively(<$30), please E-mail me.

>Thanks in advance,
>Michael R. Horn
>MHorn22377@aol.com

The MCM Electronics Catalog has the DSS Dish for $13 or so

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1984. Need pointer to articles on AD7008 DDS...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Scott Adams <scotta@sw.stratus.com>
Message-ID: <4ja2tm$82@transfer.stratus.com>
Source record: 106504

I just caught a reference a week or so ago regarding one or more articles about building a VFO using an AD7008 DDS chip. I have an article about use of a Harris DDS chip (DigiBrain/DigiVFO? in CQ or QST mag...don't remember which).

Could someone point me to the magazine issue(s) that contained such an article?

Thanks!

Scott Adams
scotta@sw.stratus.com

1985. RE: Murata filter ques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: n2ucn@home.hsix.COM
Message-ID: <409@ham.hsix.com>
Source record: 106505

> Date: 25 Mar 1996 22:16:11 GMT
> From: Rick Stealey <res@cmprime.att.com>
> Subject: Murata filter ques?
>
> Anyone know what BW this filter is?
> Murata CFM-455-D1
>
> Is this an AM bandwidth, FM, SSB? I found it in a homebrew
> circuit hanging off of a CB set in a hamfest. The original
> homebrewer 15 yrs ago obviously knew what he was doing, but for
> some (?!) reason the schematic wasn't included in the $2 price !

My Murata catalog gives the following specs for a CFM455D
ceramic filter.

Multielement Ladder Filter
Center Freq: 455 +/- 1.5 Khz
6dB BW: +/- 10 Khz
50dB BW: +/- 20 Khz
Ripple: 3 dB within 3 dB BW; 6 dB within 6 dB BW
Spurious Res: 50 dB min
Insr loss: 3 dB max
Input Z: 1500 ohms
Output Z: 1500 ohms

Unfortunately the pinout is not shown in my catalog. It
appears as a rectangular can with four leads on the bottom, one in
each corner. There is a tab on the bottom of one long side of the
can. My *guess* is that pins 1 and 2 are for input and pins 3 and 4
are for output. The long side is shown to be 20 mm long and the short
side 7.5 mm with a height (not including pin or tab length) of 10.5 mm.
Looking at the bottom, with the tab toward you, pins 1 and 2
are on the left (pin 1 is above pin 2) and pins 3 and 4 are on
the right (pin 3 above pin 4). The catalog does not show
prices. I have a phone number that was good on 7 Aug 1995:
(617) 356-4155. I hope this helps somewhat.

73 de Chuck, N2UCN
amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

1986. Re: Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.102.017D5207@azstarnet.com>
Source record: 106506

In article <peake.162.003EBB8E@dstos3.dsto.gov.au> peake@dstos3.dsto.gov.au (Alan Peake) writes:
>From: peake@dstos3.dsto.gov.au (Alan Peake)
>Subject: Re: Conversion of noise voltage into noise figure ?
>Date: Mon, 25 Mar 1996 10:15:11

>>NF = 10 log[(Eni^2) / (Et^2)]

>> = 10 log[(Et^2 + En^2 + (In^2 * Rs^2)) / (Et^2)]

>In a 50 ohm RF system, I find the following useful:

>input noise power(in dBw) =
> -174 + 10*log10(Bandwidth) + 10*log10(Noise Factor - 1)

>Noise Factor is 10*log10(Noise Figure)
>-174 + 10*log10(Bandwidth) is the noise in 50 ohms at room temp.

>e.g. for a system with 2dB noise figure and 2400 Hz bandwidth,
>the input referred noise is

>-174 + 33.8 - 2.3 = -142.5 dBw or -112.5 dBm which is about .53 uV rms

While it doesn't really address Vincent's question, I offer the following:

In his book "Noise Performance Factors in Communications Systems", W.W. Mumford says, in concluding a discussion on noise figure definitions:

"The reader is cautioned to ask which definition of noise figure is being used before he enters into any profound discussion of it."

That said, I step on the slippery slope and state that the generally accepted definition of noise figure is noise factor expressed in dB, e.g. a noise factor of 2 is a noise figure of 3.01 dB. This is in opposition to Alan's usage.

Also, the usual equation for input noise power (Ni) is:

Ni = kTB

where: k is Boltzmann's constant = 1.38 * 10 ^ -23 joule/ deg K,
T is the source temperature, usually taken as 290 deg K,
B is the effective BW in Hz.

letting B = 1 and using the log form, 10*log(kT) = -204 dBw = -174 dBm. Note that Alan used -174 for dBw, which is also incorrect.

Leaving out the derivation, it can be stated that the noise power at the input of a system (at 290K) is kTBF where F is the noise FACTOR or in log form, -174 + 10*log(B) + NF(dB) dBm. Therefore, with a 3 dB noise figure, the equivalent input noise power is -171 dBm/Hz.

Because it is now 12:10 AM, I will conclude, hopeing that I haven't made too many mistakes.

73, Wes -- N7WS

1987. Re: Plans for 2m SSB 10w-to-??? Linear Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.103.0183C981@azstarnet.com>
Source record: 106507

In article <4j99o8$rqk@lynx.unm.edu> boardman@cobra.unm.edu (Bob Boardman) writes:
>From: boardman@cobra.unm.edu (Bob Boardman)
>Subject: Plans for 2m SSB 10w-to-??? Linear Amp?
>Date: 26 Mar 1996 17:32:56 GMT

> I've been looking for a linear amp to use with my Icom IC-211 2 meter
> all-mode rig, which only puts out 10 watts. Most of the commercial amps
> I've seen are either designed for HTs and use 2-5 watts in for 30-40 watts
> out, FM only, or are desinged for the newer and more powerful all-mode rigs
> and use 25 watts in for 150 watts out. The 1996 _ARRL Handbook_ only has
> plans for a 2m "brick", for FM only. If anyone knows of a commercial amp
> that meets these requirements, I might consider it, but I'm leaning towards
> building my own at this point. If anyone knows where I might find a good set
> of plans for such an amp, I'd appreciate a pointer. I'm open to either an
> all solid state or a tube design, that could be built by someone with a modest
> amount of experience in kit building.

Bob:

I strongly suggest that you use a tube amp. Most solid-state designs (unless
you use a 24V MOSFet) have too much distortion and sound like hell. A single
4X150 with 1200-1500 V on the plate will give you a conservative 100-200W out.
If you are interested, I probably can dig out a couple of papers on the
subject.

I look forward to a two meter QSO.

73, Wes -- N7WS DM42

1988. Re: Ten-Tec 1209 transverter kit: comments?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: parf@aol.com
Message-ID: <4jap1k$36g@newsbf02.news.aol.com>
Source record: 106508
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi Dean,
While I have not built the TT kit I did hear a # of them on 6M last Es season- they were consistantly the nicest sounding sigs on the air. Previous postings here indicate the instructions hark back to the excellent days of Heath. Note also they now have a 2M to 6M downconverter to place your 2M all-mode on 6. I've been told the 1st run is sold out! I have no affiliation w/ TT in fact I don't own a TT!- but if I had serious interests in HF I would own nothing but TT.

Dale WA2YPY

1989. Re: HOMEBREW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <607.6659T916T882@nycmetro.com>
Source record: 106509

>I am looking for a homebrew newsgroup. This was the closest I got to
>one and it looks like I am at the wrong spot. Pleaasssee, can someone
>point me in the right direction?

>Julie
>jballantine@campus.mci.net

Home Brew WHAT? If it's BEER Brewing you want try rec.crafts.brewing

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

1990. Re: Crystal Parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DoxCwz.4Io@hpqmoea.sqf.hp.com>
Source record: 106510

M Simon (msimon@rworld.com) wrote:

: How can I measure the L & C values for a quartz crystal.

: R is easy but L & C stump me.

The LC product is measureable very accurately, an LF measurement will
get the case capacitance. Look at the difference between parallel and
series mode resonances, then do them again with a known loading capacitor
added. You now have enough to calculate L and therefore also C values,
though the acuracy will be somewhat less than the LC product...

Cheers
David

1991. Re: Crystal Parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: msimon@rworld.com
Message-ID: <4jbja3$ctn@delta.misha.net>
Source record: 106511

Clifford Buttschardt <cbuttsch@slonet.org> wrote:

>Hi Simon....that's tough! During WW2 there were a number of crystal
>bridges around that might be had. Modern test equipment for crystal
>manufacture is available but rather costly. You might be best to look
>for one of these older crystal bridges..Cliff Buttschardt W6HDO

>On Tue, 26 Mar 1996, M Simon wrote:

>>
>> How can I measure the L & C values for a quartz crystal.
>>
>> R is easy but L & C stump me.
>>
>>
>> Simon

Thanks for the reply. What I was looking for is a circuit or
theory of operation.

I can design a test set based on the above info. A tube version
would be OK. I can translate.

Simon

... How many Zen Masters does it take a light bulb to change?

None, the Master say, en-LIGHT-enment should come from within.

1992. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <4jbkrb$og6@vixen.cso.uiuc.edu>
Source record: 106512

In a previous article, midgard@nycmetro.com (SARUMAN) says:

>>I am looking for an eighteen inch parabolic dish for a project. I only
>>need the dish and not any electronics.
>
>>If anyone knows where to get this inexpensively(<$30), please E-mail me.
>
>>Thanks in advance,
>>Michael R. Horn
>>MHorn22377@aol.com
>
>The MCM Electronics Catalog has the DSS Dish for $13 or so
>
>

The thing I don't like about those DSS antennas is that they are
off-center feeds. This gets your feed out of the way of the signal into
the dish, but I have always had a harder time pointing the things.

73, Zack W9SZ

1993. Re: Digital Voltmeter circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.827943693.23995.jwicklun@mycroftxxx.halcyon.com>
Source record: 106513

> Does anyone have a handy volt meter circuit for driving LED (or LCD)
> displays from an A/D - or
> point me in the right direction?
>
> Are there alternatives? I thought about using a timer chip and
counter.
>
> Bill K2EK
>
Hi Bill, how about two digital panel meters?
M.P.Jones & Assoc
P.O. Box 12685
Lake Park, FL 33403-0685
(800)652-6733
(407)848-8236

is advertising a digital panel meter (stock # 6929-ME) for $9.95 each.
These meters read DC inputs of 0 - 200mV; a simple voltage divider
can be used to scale the readings.

73 de KI7RH....Jay

1994. Re: fuses vs. circuit breakers vs. polyswitch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <3159A313.7816@tir.com>
Source record: 106514

Philip,

For absolute reliability nothing beats a standard fuse of correct rating. Breakers more often fail to break than fuses fail to fuse. Statistics on record will back me on this, but if pressed it would take a long time to find those records. Would this aircraft tolerate the additional weight of closely matched breakers backed up by fuses with a greater margin? This would offer double protection (something aviation adores) with the convenience of breakers. The idea is to have the breaker trip before the fuse blows. If the breaker fails (doesn't open on overload), then the fuse goes. If the fuse ever does blow in such a system... you know it saved your life!

Bill

1995. Palomar HF Tube Amp Questions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: George Harris <103021.3555@CompuServe.COM>
Message-ID: <4jbs9l$hs4$1@mhafn.production.compuserve.com>
Source record: 106515
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

I've just purchased a Palomar HF Multi-Band Tube Amp at a
HamFest. I can't find a model number on the unit to identify it.
Palomar Electronics is no longer in business so they can't help
me. Can anyone help me to identify the unit I have and a possible
source for Schematics.

P.S. The unit uses 6 6LF6 Tubes.

Thanks Alot!

George

--
Don't do anything that I wouldn't, At least don't get CAUGHT!!!!

1996. WTB Surplus PV Solar Panel

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Dave Hand <dhand@microdes.com>
Message-ID: <4jbf3p$9u7@jeefers.microdes.com>
Source record: 106516

I am looking for a couple solar pannels in the 2+ amp range.

Email me if you have or know of anything interesting... Thanks!

Dave Hand WB4HYP
Dhand@microdes.com

1997. Re: linear amplifiler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4jc1pg$def@newsbf02.news.aol.com>
Source record: 106517

In article <1996Mar22.234747.5857@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>> I make a linear to hf bands, and I used four 6KD6 tubes, with 1300V
>>and 1 amper. My tubes is now burred.
>> I want a new tubes and I think that I doubler the voltagem = 2800 V
>>and 0.5 ampers I can use a one 3 - 500 z tubes.
>> I ask by any especialist what do you think about my decision ?
>
>You'll have to redesign the output network. The sweep tubes wanted a
>load line of approximately 1300 ohms that had to be transformed from
>50 ohms by the output network. The 3-500Z will want a loadline of
>approximately 5600 ohms at the voltage and current you propose, so
>the existing output network won't provide the transformation.
>

The impedance is much lower than the simple resistance calculated by the current and voltage.

The only accurate way to calculate the impedance is to know the maximum available fundamental current and voltage at the anode under operating conditions. That can be done by using the constant current characteristics of the tube to determine the loadline and fundamental voltage and current.

The older ARRL Handbooks give some simple rules of thumb that are pretty good. The new Handbook has some theoretical errors on matching, so I'm unsure of it's accuracy. That section may still be correct.

With a typical class B amplifier the correct source Z is around half the dc plate impedance calculated by the operating E/I. So the sweep tubes would be ~650 ohms and the 3-500Z will be ~3000 ohms, depending on the conduction angle.

I think a more simple change would be to use parallel 811A tubes, rather than a 3-500.

73 Tom

1998. Re: >>>>HELP - Small VHF Xmitter for Airborne Telemetry<<<<

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <4jc2dm$3dt@news.inc.net>
Source record: 106518

BlueSky@tiac.net wrote:
>Can someone help me by pointing me to a schematic or an article of a small VHF transmitter? It is
>to be used to relay telemetry from a series of high altitude rockets. Following are the (desired)
>specs:
>
>Frequency: 2m band or nearby; XTAL controlled;
>RF Power: 50-250 mW output;
>Supply: 9-12 VDC (battery);
>Modulation: N/A
>
>Complexity (ie. size and weight) should be as low as possible, as should the cost - lets face it -
>the typical life of these devices will be measured in minutes. I would preffer to build the
>xmitters myself as integral part of a telemetry package.
>

The common "wireless mike" kits that are pretty commonly available for the FM broadcast band are, I believe, also available for the 2m band. Some of these kits have power outputs in the lower end of the power range you're looking for, and can be powered with 9V batteries.
Have you looked for ads for these cheap, easy-to-assemble kits? I know that they're available in the frequency range you're looking for, but I don't remember which manufacturer offers them there. Ramsey, perhaps?

73 de Will KB9JTT

1999. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4jb70t$t31@news.calweb.com>
Source record: 106519

midgard@nycmetro.com (SARUMAN) wrote:
>>I am looking for an eighteen inch parabolic dish for a project. I only
>>need the dish and not any electronics.
>
>>If anyone knows where to get this inexpensively(<$30), please E-mail me.
>
>>Thanks in advance,
>>Michael R. Horn
>>MHorn22377@aol.com
>
>The MCM Electronics Catalog has the DSS Dish for $13 or so
>
>

Don't forget that the DSS is an OFFSET FEED type and requires
a different feed than you would use on a center feed dish. The offset
feed is better though.

Bill K7NOM

2000. Re: LNA input design problem (double match ?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4jc22p$t16@abyss.West.Sun.COM>
Source record: 106520

In article <4j70ac$a0l@tempo.univ-lyon1.fr>, Elendir <elendir@enst.fr> wrote:
>Hi -
>once more, a question. :-)
>
>In the process of designing an (hypothetic) input stage for my 50 MHz
>transverter, I have, of course found some good filters that are 50 ohms
>input and output.
>I have also selected an appropriate Dual-Gate MOSFET (BF 998) given for
>less than 0.4 dB @ 50 MHz.
>
>The classical design process would be, regarding the input :
>to design an input-impedance matching network to xform the 50 ohms
>into Gopt.
>
>But, if I do this and connect the filter to the input design, its
>characteristics shift, because the input network does not transform the
>Yin of the BF998 into 50 ohms !
>
>What am I to do ?

I'm no expert in this (I've been waiting to respond in hope that one
of the real experts would answer), but I've got the following
comments...

It sounds like you're using the FET in a common-source configuration,
and the gate is primarily reactive, with a fairly small series
resistance. An LC matching circuit at the gate is going to have a
fairly high Q, and will only provide a 50 ohm match over a limited
frequency range. Moving outside this range, the input impedance
will rapidly become reactive.

LC filters depend on non-reactive termination; as the termination
becomes reactive, the LC filter characteristic changes. With a
filter, the termination outside the desired bandpass is at least
as important as the termination inside the desired bandpass, and
the matching circuit to the FET gate is almost certain to
mis-terminate the filter - something you've already discovered.

>How to design an input stage that will both xform :
>50 ohms into Gopt to be seen by the BF998 AND
>Yin into 50 ohms to be seen by the filter ?

If you want to use the FET amplifier to terminate a filter, you'll
need to make the FET have a non-reactive input impedance over a
fairly wide range (at least an octave above and below the desired
bandpass frequency). You can do this by shunting the FET gate

to ground via a resistor, and then use a broadband transformer to match the filter to this resistance, or you can use an amplifier with an input characteristic more suitable for terminating a filter. The problem with shunt loading the FET is that you'll certainly degrade the noise figure, perhaps dramatically. A grounded gate FET happens to offer a well-defined input resistance without compromising the noise figure, which makes it a natural choice for terminating filters (and mixers, too).

Most LNA designs I've seen have very little in the way of input filtering, instead depending on the narrow band nature of the input matching circuit to give some filtering. If you don't expect to have a lot of strong interfering signals on nearby frequencies, you're probably best off using the simple matching circuit before the FET amplifer, and the LC filter after the amplifier. Afterall, the insertion loss of the filter would directly degrade your noise figure if you place it in front of the amplifier, but will have little influence placed after the amplifier if the gain of the amplifier is significant.

Alternatively, you could investigate changing the amplifier configuration to common gate.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

2001. Re: lightning detector, how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: pholzleitner@unido.org
Message-ID: <4jc21a$uhs@nesirs01.iaea.or.at>
Source record: 106521

>I'd like to build something similar and perhaps build a dual arrangement
>to get crude triangulation. Anyone have any references for this type of
>instrument?

Circuit Cellar magazine, March '96, has a good overview article on
lightning protection.

--Peter

2002. Re: HELP.... New ham needs simple design for HF transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4jcbbl$h7u@newsbf02.news.aol.com>
Source record: 106522

The ARRL Handbook and other ARRL publications have transmitter design information.

The internet is no substitute for midnight oil burnt over a good textbook.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2003. Re: Wanted Receiver for 137 Mhz, or a KIT for homebrew!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4jc56a$gts@dfw-ixnews6.ix.netcom.com>
Source record: 106523

>
>I like to receive the next satellites: NOAA, METEOR. But for to
>receive these sat's you must have a receiver at 137 Mhz.
>
>Now I'm loking for some information where I can buy me sutch receiver.
>
>A homebrew kitt wil also do !!
>

Try Hamtronics Inc
65-D Moul Rd.
Hilton, NY, 14468

Phone 716-392-9430

They have a kit for $159 and advertise in "73" every month.

2004. Re: Palomar HF Tube Amp Questions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4jcgrq$jci@newsbf02.news.aol.com>
Source record: 106524

In article <4jbs9l$hs4$1@mhafn.production.compuserve.com>, George Harris <103021.3555@CompuServe.COM> writes:

>I've just purchased a Palomar HF Multi-Band Tube Amp at a
>HamFest. I can't find a model number on the unit to identify it.
>Palomar Electronics is no longer in business so they can't help
>me. Can anyone help me to identify the unit I have and a possible
>source for Schematics.
>
>P.S. The unit uses 6 6LF6 Tubes.
>
>Thanks Alot!
>
>George
>
>

Hi George,

That was a CB amp. Good luck on getting it to work on the ham bands. Even if you get it to put out RF, it will be a NASTY dirty signal.

Palomar got out of the illegal CB trade.

73 Tom

2005. RE: Digital Voltmeter circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: ccurtis@nfsrv.avionics.ITt.COM
Message-ID: <3159BD0A@avint4.avionics.itt.com>
Source record: 106525

>Date: 26 Mar 1996 10:52:32 -0500
>From: k2ek@aol.com (K2EK)
>Subject: Digital Voltmeter circuit needed
>
>Hello -
>
>I would like to use digital display for an az-el rotator system. What is
>needed are 2 dedicated
>DVMs capable of reading 3.60 and 9.00 volts respectively... Obviously I do
>not want to tie up
>multiple DVMs. Seven segment LED display would be ideal.

Try Stock # 7515-ME, LED Panel Volt Meter from Marlin P. Jones & Assoc. Inc. 1-800-652-6733 to order. 1-407-848-8236 for info. Listed at $11.95 ea. These are compact 3-1/2 digit, LED voltmeters, 0-200 mVDC full scale, 7-12 VDC powered. You can easily add scaling resistors to suit your voltage measurement requirements. I have never purchased these. Other sources do exist for similar devices. This was simply the first catalog that I happened to locate them in for you.

73 de Chuck, N2UCN

2006. Ft-5200 Mic connector pin outs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Al Wong <alwong@mitre.org>
Message-ID: <4jchhp$9a2@linus.mitre.org>
Source record: 106526

Help....

Can anyone help me with the microphone connector pin outs for the Yaesu
FT-5200?

Thanks,

Al Wong The above opinion does not reflect that
KF4GDD of my employer. As with ALL my opinions,
alwong@mitre.org I write them, you intrepret them.

2007. RE: Murata filter ques?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.OSF.3.91.960327153644.11369A-100000@biggulp.callamer.com>
Source record: 106527

The center tab on this filter indicates the grounded end of either the
input or the output connections. Yes nr 1 is input and nr 3 is output
both at 1500 ohms...Cliff Buttschardt W6HDO

On 27 Mar 1996, Charles Curtis wrote:

> > Date: 25 Mar 1996 22:16:11 GMT
> > From: Rick Stealey <res@cmprime.att.com>
> > Subject: Murata filter ques?
> >
> > Anyone know what BW this filter is?
> > Murata CFM-455-D1
> >
> > Is this an AM bandwidth, FM, SSB? I found it in a homebrew
> > circuit hanging off of a CB set in a hamfest. The original
> > homebrewer 15 yrs ago obviously knew what he was doing, but for
> > some (?!) reason the schematic wasn't included in the $2 price !
>
> My Murata catalog gives the following specs for a CFM455D
> ceramic filter.
>
> Multielement Ladder Filter
> Center Freq: 455 +/- 1.5 Khz
> 6dB BW: +/- 10 Khz
> 50dB BW: +/- 20 Khz
> Ripple: 3 dB within 3 dB BW; 6 dB within 6 dB BW
> Spurious Res: 50 dB min
> Insr loss: 3 dB max
> Input Z: 1500 ohms
> Output Z: 1500 ohms
>
> Unfortunately the pinout is not shown in my catalog. It
> appears as a rectangular can with four leads on the bottom, one in
> each corner. There is a tab on the bottom of one long side of the
> can. My *guess* is that pins 1 and 2 are for input and pins 3 and 4
> are for output. The long side is shown to be 20 mm long and the short
> side 7.5 mm with a height (not including pin or tab length) of 10.5 mm.
> Looking at the bottom, with the tab toward you, pins 1 and 2
> are on the left (pin 1 is above pin 2) and pins 3 and 4 are on
> the right (pin 3 above pin 4). The catalog does not show
> prices. I have a phone number that was good on 7 Aug 1995:
> (617) 356-4155. I hope this helps somewhat.
>
> 73 de Chuck, N2UCN
> amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com

> ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com
>
>

2008. Re: fuses vs. circuit breakers vs. polyswitch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-27 00:00:00 UTC
From: Mark Schoonover <schoon@cts.com>
Message-ID: <3159DEBF.3F2B@cts.com>
Source record: 106528

Kinda funny they call it a 'fuse' when it's designed
to split apart. Just an end of the day observation.

73's

Mark --KA6WKE

2009. Re: diplexer design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar28.021844.3797@ke4zv.atl.ga.us>
Source record: 106437

In article <4j75pc$6qi@mercury.hiline.net> jacosta@hiline.net writes:
>
>What I was wondering is how a diplexer design can be acheived. That
>is after BP filtering the desired frequencies from each transmitter
>with parallel stubs, can I just connect the two XMTR output lines and
>expect them to mix?

A diplexer consists of a high pass and a low pass filter with their
outputs Teed together to feed the antenna. The theory is that each
filter presents a very high impedance at the other frequency, so that
it beomes essentially "not there" to the other signal. Thus the signals
behave as if they were directly connected between the antenna and
their respective radios. The filters may require additional stopband
elements for the opposite frequency to achieve this.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2010. *BEGINER IN RADIOS* NEED HELP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Cliff Goodman <cgoodman@fix.net>
Message-ID: <4jd11g$bjb@twizzler.callamer.com>
Source record: 106438

I am thinking about creating radio station later on in my life but
I would like to learn as much as possible about it right now, so if any
of you guys could tell me about the real basics of starting a radio
station or even give me the titles to some goos books to read about it.
any info is greatly appreciated,

2011. Re: Palomar HF Tube Amp Questions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Tiger X-term <t9>
Message-ID: <4jd6ps$mmr@news.sdd.hp.com>
Source record: 106439
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

Try calling RF parts in San Marcos Ca.. I don't have their number handy right now. It is in the 619 area code. Some of the ex Palomar people work for them. They should be abl to help you.

Good Luck..Don N6NLX.

2012. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jddt3$rv3@crash.microserve.net>
Source record: 106440

mhorn22377@aol.com (MHorn22377) wrote:

>I am looking for an eighteen inch parabolic dish for a project. I
>only need the dish and not any electronics.
>
>If anyone knows where to get this inexpensively(<$30), please E-mail
>me.

Older-style MMDS receive dishes were made with detachable feeds and
were commonly available in 18", 21", 24" and 36" sizes. Many
MMDS system operators have now begun to use dishes with integrated
downconverters, and some have a surplus of the older style dishes.

If you're in a large metropolitan area, see if there's a Wireless
Cable operator neaby. A call to one of the technicians or the
installation crew manager might get you what you're looking for at a
very reasonable price.

Incidentally, these are all center-feed designs.

73,
Jack WB3U

2013. Re: HELP ! Need broadband impedance match !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jdi81$s93@crash.microserve.net>
Source record: 106441

Fabe wrote...

>I am trying to match an acoustic transducer which has a nearly
>constant resistive value of 50 ohms, but which has a capacitive
>reactive component decreasing linearly from 1000 to 600 ohms, over a
>frequency range from 150 KHz to 180 KHz. I would like to conjugate
>'match out' that reactive component, or at least minimize it.

Just to be sure, are you certain you need to do that in order to drive
it? Is this a ceramic-based transducer?

Maybe you could describe the device in a little more detail and tell
us what the application is?

>Sorry for using the extra bandwidth in this repost. Thanks for the
>queries thus far too !

Don't worry about it - that's what the group is for. :)

73,
Jack WB3U

2014. Want info: Cubic Corp 1201 HF Tcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: david@comms.ee.man.ac.uk
Message-ID: <4je1kk$i80@yama.mcc.ac.uk>
Source record: 106442
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi,

Several years ago now I bought (cheaply) a HF transceiver which
was badged "AEL 1201". The company AEL claimed to have no knowledge
of such a radio. Recently I learned that the 1201 was actually
only distributed by AEL and then only for a short period. It seems
the radio was built by Cubic Corporation (I think). I would be
very grateful if anyone could supply me with contact details for
Cubic, or better still, let me know where I can get information
(just the schematic would be great) on this radio. It has a
TTL based synth giving 12 channels and I would like enough info
to be able to homebrew a replacement synth/VFO.

Many thanks,

David
--
David Tait, Tel: +44 (0)161 275 4504
Electrical Engineering Dept, Fax: +44 (0)161 275 4512
The University, Radio: G0JVY
Manchester, M13 9PL, UK. E-mail: david.tait@man.ac.uk

2015. Re: Palomar HF Tube Amp Questions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: George Harris <103021.3555@CompuServe.COM>
Message-ID: <4je6rg$ib4$1@mhadg.production.compuserve.com>
Source record: 106443

Tom,
Thanks for your response but I believe you are incorrect. The amp has a Band Switch that goes from 10m to 80m and I've checked the output into a dummy load with my scope. The output frequency checks out properly although I haven't checked the signal with a spectrum analyser so I don't know how clean it is yet.
Have a good day sir.

73's

George

--
Don't do anything that I wouldn't, At least don't get CAUGHT!!!!

2016. Re: Ten-Tec 1209 transverter kit: comments?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Ed Cregger <ecregger@water.waterw.com>
Message-ID: <4je7ud$95t@sea.waterw.com>
Source record: 106444
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

ddenter@nortel.ca (Dean Denter) wrote:
>
> has anybody got any comments on the T-Kits 1209 2M -> 6M
> transverter kit?
>
>
> Is 5W output enough to get started on 6M (I can add a PA
> later -- maybe as next year's project :)).
>
> regards,
> Dean.
> --

Hello Dean,

I received my 1209 2m - 6m transverter kit last week, but have
not started assembling it yet. The kit looks good as does the instruc-
tion manual. Lots of small parts! It has an attractive case and appears
to be complete.
Yes, 5 watts (8 watts actually) is plenty of power to operate
on six meters. Not to worry. As you say, you can add an outboard amp
later if you feel you need it.
All I can say is that I am impressed with the kit and am look-
ing forward to getting it on the air.

Ed, NM2K
ecregger@water.waterw.com

2017. Re: 6 or 7 port reflectometer for getting s parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4jej8b$bku@newsbf02.news.aol.com>
Source record: 106445
Cross-posted to: rec.radio.amateur.homebrew,sci.physics.electromag

I think your email is very interesting. I was thinking of a device to measure S11 and S21 with the accuracy needed in ham use. I can't contribute any help, but was considering the use of a directional coupler. This would be oK for magnitude but phase angle would be more difficult. I think down conversion to base band and then a phase detector might be one way to go.

I am not familiar with the 6/7 port reflectometer and you mention some articles. Can you tell me the articles?

Currently my equipment is an Alfred sweep generator and an HP 8551 spectrum analyzer. That's about what my budget can afford. The network analyzer is way out of the question.

Regards,
Viny Coppola

2018. CFTH tube info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: maillet@ensm-douai.fr
Message-ID: <4jejlj$rr6@netserver.univ-lille1.fr>
Source record: 106446

```
hello;
does anyone have the specs on an CFTH tube
ref: TH3T 1100

thanks in advance.
```

2019. schematics for VHF amp using 2c39 / 4cx250 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Peter Dingemans <129432pd@mstore.eur.nl>
Message-ID: <Pine.PCN.3.91.960328180505.7053A@[130.115.53.110]>
Source record: 106447

G'day everyone,

I'd like to know if anyone has schematics for a VHF amp using those valves (esp. the 2c39). Even though valves may seem old-fashioned, they're still the cheapest way to get quite a lot of power in the air for very little money. (a used 2c39 costs about 10 dutch guilders, which is about 7US$). Compare that with the price of a BLX/BLY VHF power-transistor!

I know there are still quite a lot of amateurs around who use these valves, and if they have a simple schematic, I'd like to hear from them. I currently have some schematics for the 2m and 70cm, but they use coaxial techniques, while I'd rather use 'normal' wound coils (much easier to build/modify).

So, if anyone has a simple schematic or any experience with tube-amps, please let me know.

Also, any web-sites with schematics or any other info on using RF-valves will be appreciated. I've been looking for a week, but have found practically nothing.

Have a nice day,

Peter Dingemans,
Rotterdam,
The Netherlands.

2020. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <315AC8A2.419@arrl.org>
Source record: 106448

Zack Lau wrote:
>
> What type of feed you do recommend? An article by Paul Wade in the

December

> 1995 QEX indicates that a simple rectangular horn feed gives excellent
> efficency, at least when compared to the best center fed dishes (10 GHz).

For circular polarization, Paul suggested a varient of the W2IMU
feed as a starting point for experimentation--IEEE Transactions
on Antennas and Propagation AP-15 March 1967 pp 307-308.

--Zack KH6CP/1

2021. Re: Thermistor mounts needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.OSF.3.91.960328105843.28371A-100000@biggulp.callamer.com>
Source record: 106449

Bob, you might learn just as much about these mounts by looking back in
older Ham Radio magazines for a homemade mount constructed with 1/200 amp
fuses. We used to construct these and use them without effort as high as
1296 Mhz for little more than the cost of the fuses. Cliff Buttschardt W6HDO

On Tue, 26 Mar 1996, Bob Mueller wrote:

> I would like to obtain one or two thermistor mounts for a microwave power meter
> so I can study the construction and maybe also ways to get dead ones up and
> running again. I would like the sort for coaxial cable, not for waveguides.
> I would expect to repay you the cost of shipping and something besides for the
> help and trouble. I do not anticipate finding anyone offering functioning
> mounts, though I welcome any offers for those if you have one gathering dust!
>
> Bob<iff161@DJUKFA11>
>
> PS I don't care much about who made them; I'll probably learn as much from
> any decent brand and there have been several companies who made them.
>
>
>

2022. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.OSF.3.91.960328110157.28371B-100000@biggulp.callamer.com>
Source record: 106450

Why not consulst QEX magazine for last month? That was the best article
I've ever read on the subject of off center feeds! Cliff Buttschardt W6HDO

On 27 Mar 1996, Zack Widup wrote:

>
> In a previous article, midgard@nycmetro.com (SARUMAN) says:
>
> >>I am looking for an eighteen inch parabolic dish for a project. I only
> >>need the dish and not any electronics.
> >
> >>If anyone knows where to get this inexpensively(<$30), please E-mail me.
> >
> >>Thanks in advance,
> >>Michael R. Horn
> >>MHorn22377@aol.com
> >
> >The MCM Electronics Catalog has the DSS Dish for $13 or so
> >
> >
>
> The thing I don't like about those DSS antennas is that they are
> off-center feeds. This gets your feed out of the way of the signal into
> the dish, but I have always had a harder time pointing the things.
>
> 73, Zack W9SZ
>
>
>

2023. I look for metal detectors creators for information exchange.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: "Irina N. Borisova" <bin@poisck.spb.su>
Message-ID: <AD4ojMnmi8@poisck.spb.su>
Source record: 106451

[No readable article body recovered]

2024. Re: Ethernet to IR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <4jeqed$dtu@news.inc.net>
Source record: 106452

snyder@frugal.com (Gary E Snyder Jr) wrote:
>Help!
>Several years ago I saw a discussion on using 10base2 ethernet cards connected
>to InfraRed emitters/detectors fo a high speed link. It seems a $20 10MBps
>card and some 'simple' IR gear will make a very nice high speed point to point
>link. The problem is, of course, I can't find the information I saved and
>surfing hasn't helped. I'm pretty sure it was a ham usnet group that was
>discussing this stuff around 1992.
>
>Any help or pointers ?
>Thanks
>G
>N7QAM

I can't help you find the information you need, but if you do find it, I'd be interested in seeing how they do collision detection; that's what's kept Ethernet off radio for years, and caused AT&T to develop WaveLAN, for example. Please post the results, if you find them.

Thanks and good luck.

73 de Will KB9JTT

2025. Re: Siliconix VMP-4

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: "Charles H. Reichert" <qa2696@email.mot.com>
Message-ID: <315ADF7A.41C67EA6@email.mot.com>
Source record: 106453

JohnsonHE wrote:
>
> Looking to purchase Siliconix VMP-4 FET transistors. If you have a few or
> a bunch you'd like to turn loose of, leave message to johnsonhe@aol.com.
> Device no longer made.

I don't have any VMP-4 but have the following:
(Make offer for Lot)

Siliconix 28VDC Power FETs -> 175Mhz
These devices have never been used.
Still in packaging.

Qty - 4 40W DV2840S
3 20W DV2820S
6 5W DV2805S
2 5W DV2805W
With Spec Sheets
--
\|/
^ ^
(O O)
====================.ooO==U==Ooo.====================
| KD9JQ 847-358-3827 Home |
| Charles H. Reichert 847-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 qa2696@email.mot.com |
==

2026. Etching Teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: flegler@pilot.msu.edu
Message-ID: <4jeuqr$1j59@msunews.cl.msu.edu>
Source record: 106454

I'm working on a project where I want to glue some Teflon to a surface for insulation. I've heard that you need to etch it before glue will adhere properly. I presume that an acid is needed. Does anyone know which acid, what concentration, and how long? 73 Stan K8RPA, flegler@pilot.msu.edu

2027. Re: Looking for schematics for Swan 350

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: mlawlor@indigo.ie
Message-ID: <4jf210$94l@niamh.indigo.ie>
Source record: 106455

Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:

>What bands does the Swan 350 cover?? Does anyone have the schematic??
>I'd pay cost of copying+shipping if you can send a copy to me. Thanks.

>73's
>Isaac
Hi Isaac ,

The Swan 350 covers 3.5 , 7, 14, 21 and 28MHz. I used one for many
years but it has been retired for about 10 years now. The Schematic
Diagram I have is dated 1965 so it is a very elderly set. Also it
doesn't have IRT....important if you like CW.

73

Mike EI3CN

2028. Re: fuses vs. circuit breakers vs. polyswitch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4jf423$5p3@clam.niwa.cri.nz>
Source record: 106456

Tom Kreyche <tkreyche@well.com> wrote:

>None of electronics are critical to aircraft operation so the primary
>goals are: prevention of short circuit induced fires and instrument
>protection. The instruments need to run as long as possible while the
>batteries discharge.

>Circuit breakers appear to have a voltage drop of about 1.5 v which
>minimizes useful battery life, so it appears to be a bad option for a
>system which isn't charging continuously. Fuses would be difficult to
>change in flight but have obvious advantages of little voltage drop,
>cheap, etc.

>My plan is to fuse both + and - on the batteries as close to terminals as
>possible, use fairly high value fuses to protect against shorts, say 10
>or 20 amps. They can't be changed in flight, but if one blows, I can
>switch to the other battery.

You only need one fuse, located right at a battery terminal, to break
the circuit. Using 2 fuses only increases voltage drop.

I suggest you use independent wiring for the radio and the
instruments. Both circuits independently fused, right at the battery
terminal, by fuses rated below the current carrying capability of the
wiring. This will prevent the wiring from igniting in case of a short.

Seeing the loads are pretty much fixed, you can even decide to reduce
the fuse rating to just above the full working load, using slow blow
fuses to accommodate turn-on surges. this will extend protection to
your radio and instruments when they develop a fault resulting in an
unusually high current.

A comment on breakers vs fuses. Breakers often have both thermal and
magnetic trip values. The magnetically sensed breaking action is very
quick, the thermal action much slower and dependant on the amount of
overload and the duration. The magnetic trip point is usually several
times the nominal breaker rating. Fuses rely on thermal action only.

Wilbert, ZL2BSJ.

>The next question is what to do about individual instruments. Nothing? or
>fuse each one? or put Raychem PolySwitches on each one? They're listed in
>Digi-Key, are cheap and have minimal resistance.

>Any suggestions?

>Thanks, Tom KG6YJ

2029. Amp. Tank Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: Mike Sims <nasfred@interserf.net>
Message-ID: <315B297E.1352@interserf.net>
Source record: 106457

Situation is a 4CX1600 amp. using a pi/L tank. The amp./tank circuit works okay on 20, 15 and 10 meters (efficiency). However, on 40 and 80ty meters the efficiency is way off and the output capacitor on the tank circuit are at max. capacity. I have padded additional capacitance across the output capacitor to above the calculated value. The tank's input capacitance tunes the band okay. The amp. has been tried at the upper and lower end of 80ty and 40ty. The amp. is working into a big dummy load (five gallons of transformer oil with two 15 inch non inductive 100 ohm resistors in parallel in the oil).

The L or output coil is made of a small air wound coil for ten meters and a coil wound on three T200-6 toroids using number 12 wire. The inductance and appropriate taps was measured using a Autek Analyzer at the frequency of use.

Will be trying an air core coil on forty meters to see if the toroid is causing the problem.

Any answers of suggestions?

Mike, K4GMH

2030. Re: diplexer design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4jej6n$q68@hpcvsnz.cv.hp.com>
Source record: 106458

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:

: A diplexer consists of a high pass and a low pass filter with their
: outputs Teed together to feed the antenna. The theory is that each
: filter presents a very high impedance at the other frequency, so that
: it beomes essentially "not there" to the other signal. Thus the signals
: behave as if they were directly connected between the antenna and
: their respective radios. The filters may require additional stopband
: elements for the opposite frequency to achieve this.

Exactly so. The "not there" can be achieved with a parallel-tuned trap
in series at the input to a filter, which is tuned to reject the other
band. Then the reactance that trap has on the pass frequency must be
included in the design of _that_ path. Or, you could use a series-tuned
shunt trap at the input to a filter and connect the filter through a 1/4
wave transmission line so that the short circuit the trap represents
reflects back as an open for the other band. Be sure to keep your
bookkeeping straight, so you know which circuit is a short on which
band, and which line is 1/4 wave on which band, etc. !! Another
alternative (really more just an alternate viewpoint of the same thing)
is to include the reactance that each filter reflects back to the
junction in the calculations for the other filter.

--
Cheers,
Tom
tomb@lsid.hp.com

2031. Re: 6 or 7 port reflectometer for getting s parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: dswanson@netcom.com
Message-ID: <dswansonDp01E8.HMt@netcom.com>
Source record: 106459
Cross-posted to: rec.radio.amateur.homebrew,sci.physics.electromag

I once made a six port reflectometer. You can make a six port coupler. It is a 3D object. Imagine two Y-junctions stacked above each other and separated by lambda/4. Then connect the ends of those 3ports together with 25 ohm line(2 50 ohm lines in parallel.) The six outputs come of the edge of the boards that the Y-junctions are printed on.

This actually worked as reflectometer. Put source at one port. One diode detector goes to X-axis of scope, One diode detector to Y-axis of scope. One port to unknown, remaining ports terminated.

A sliding line with short circuit at end traces a perfect circle (the outer edge of the Smith chart.

Got the coupler idea from old MTT article. May be able to find it.

Dan

==========
Dan Swanson	EMAIL: dswanson@netcom.com
Watkins-Johnson Co.	d.swanson@ieee.org
3333 Hillview Ave.	TEL: 415-813-2036
Palo Alto, CA 94304	FAX: 415-813-2402
==========

2032. Re: 6 or 7 port reflectometer for getting s parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-28 00:00:00 UTC
From: klopfer@natinst.com
Message-ID: <4jfk4d$pgi@eagle.natinst.com>
Source record: 106460
Cross-posted to: rec.radio.amateur.homebrew,sci.physics.electromag

A recent article about these reflectometers is in IEEE trans. Instruments and Measurement vol 45, no 1 Feb 1996. I don't understand enough of the terminology for this to help me but it has references. I was looking at the Dec. 1977 issue of IEE Trans. Microwave Theory and Techniques. This has several articles on 6 port reflectometers and some look like good introductions to calibration. There's a Dec 1991 article of IEEE T I & M that's titled "A wideband millimeter wave six port reflectometer using four diode detectors calibrated without a power ratio standard" which I haven't read but the title gives me hope that this can be calibrated without requiring the use of any calibrated device.

mike

2033. Re: fuses vs. circuit breakers vs. polyswitch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4jh7qg$pr7@nadine.teleport.com>
Source record: 106379

In article <3159DEBF.3F2B@cts.com>, Mark Schoonover <schoon@cts.com> wrote:
>Kinda funny they call it a 'fuse' when it's designed
>to split apart. Just an end of the day observation.

Now, don't be too picky when dealing with a language in which "fat chance"
and "slim chance" mean the same thing (while "wise man" and "wise guy"
don't).

Roy Lewallen, W7EL

2034. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jhaev$esv@crash.microserve.net>
Source record: 106380

dinod@deltanet.com (Dino Darling) wrote:

>Hello! I would like to build a tube transmitter (not amplifier).
>I need to learn more about tubes and I need YOUR help. It is my
>understanding that you can use TV sweep tubes for transmitters BUT
>that this parctice is NOT recommended. What is a good RF tube
>capable of 100 watts output and what books do you suggest?
>
>I think Yaesu used the 6146 tube. Is this a good choice?
>
>My goal is to BUILD my own transmitter/receiver and to put the
>Amateur back in radio. THANKS!!!

Heathkit, Collins and many others used the 6146 and its variants long before the Japanese entered the market. Yes, it's a good, rugged design and probably the most appropriate to the 100 watt output level. Actually, a pair of 6146B's will deliver about 120 watts in class AB1 (SSB/CW) and about 160-170 watts in class C (CW only).

There were a number of 6146 designs in ARRL Handbooks during the 60's and early 70's. The '72 Handbook described a heterodyne-type CW transmitter with (2) 6146B's that included a built-in T-R switch for QSK. The transmitter was a hybrid (only the driver and finals were tube-type), but it covered 160 thru 10 meters (no WARC).

Incidentally, as much as I enjoy the glow of tubes, I wouldn't personally build a transmitter with a tube-type final at this power level. If you do, be prepared to scrounge *many* parts at hamfests, or to end up with a project that will be much more expensive than its solid-state counterpart. One option in this regard might be to buy a used Heath HW-101 or similar with the matching AC power supply and scrap the whole thing for parts.

However you decide to do this, I recommend that you become very familiar with the potential cost of the entire project (and determine whether parts necessary to complete it are even available) before you spend a nickel. Commercial tube-type transmitters are plentiful on the used market at reasonable prices. A homebrew version could easily cost twice as much and have little or no resale value.

73,
Jack WB3U

2035. Re: Need pointer to articles on AD7008 DDS...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.828123829.2973.jwicklun@mycroftxxx.halcyon.com>
Source record: 106381

> I just caught a reference a week or so ago regarding one or more
articles about
> building a VFO using an AD7008 DDS chip. I have an article about
use of a
> Harris DDS chip (DigiBrain/DigiVFO? in CQ or QST mag...don't
remember which).
>
> Could someone point me to the magazine issue(s) that contained such
an article?
>
> Thanks!
Hi Scott, there was a recent article in the March 96 QST with the
Harris chip.

I could only find two articles that used the AD7008 part, I thought
that there was at least one more, but I couldn't find it.
1. October, 1995 issue of 73 - page 14
2. December, 1995 issue of QEX

The QEX article was for a microprocessor controlled HF receiver, but
it used a 7008 for the VFO.

Both articles were interesting, but I didn't think that either one was
particularly informative. I liked the Digibrain article in QST
better.

73....de KI7RH (Jay)

2036. Re: Electronic Parts Store in DC Area?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: Al Wong <alwong@mitre.org>
Message-ID: <4jh9fv$r1i@linus.mitre.org>
Source record: 106382
Cross-posted to: dc.general,rec.radio.amateur.homebrew

pp002614@interramp.com wrote:
>Does anyone know an electronic parts retail store (except Radio Shack) in
>Northern Virginia or Montgomery county, MD ? Thanks.
>
>---
> Takashi Mori, AA9AT/4
>

Takashi,

There are quite a few in NOVA.

Try:

Arlington Electronics (703) 524-2412

Anixter (703) 818-0150

Action Electronics (703) 524-7724

These are just a few that I frequent. Arlington seems to be the best one
I've found around here. They are on Lee Highway in arlington about 6
miles from rosslyn.

Al Wong
KF4GDD
alwong@mitre.org

2037. TM701A 9600 Baud Interface info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: barryc@mpd.tandem.com
Message-ID: <4jhd71$rid@news.mpd.tandem.com>
Source record: 106383
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.ham-radio

Hi,

I some info on modifying a TM701A for use @ 9600 baud. I'll
be using a KPC 9612.

TNX and CUL,
-barryc

Barry D. Chalcroft / N5NWI Tandem Computers ISD, Austin,TX
Work: (512) 432-8723 The Home of "UNIX with Integrity"
EMAIL: barryc@isd.tandem.com 76500.2177@compuserve.com
n5nwi@aol.com n5nwi@w5syt.#aus.tx.usa.noam

2038. Re: Electronic Parts Store in DC Area?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: SWASSUM@american.edu
Message-ID: <17759CBEFS86.SWASSUM@american.edu>
Source record: 106384
Cross-posted to: dc.general,rec.radio.amateur.homebrew

In article <4jfsh4$p9a@usenet7.interramp.com>
pp002614@interramp.com writes:

>Does anyone know an electronic parts retail store (except Radio Shack) in
>Northern Virginia or Montgomery county, MD ? Thanks.
>
>---
> Takashi Mori, AA9AT/4
>
Arlington Electronics. Unfortunately, I have forgotten the
exact location, and no phone book here...I think they are listed.

2039. Re: antennae for SS communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <4jhfbo$oa5@news.inc.net>
Source record: 106385

Lanier.r.a@nort.bwi.wec.com (Robert A. Lanier) wrote:
>I am looking for information on antennae for spread-spectrum
>communications. Can I use a regular Yagi or dipole or do I need a
>special configuration (hybrid?) ?
>

You don't need any special type of antenna; the only thing you
have to be careful of, especially with high-gain directional
antennas, is that the SWR remains low across the entire band
segment your transmisison is being spread around. To link
remote sites to a central main site ("star" configuration)
I've used regular Yagis at the remote sites and an omnidirectional
multi-bay vertical at the central site, all on 900 MHz using
frequency-hopping SS. For shorter ranges patch antennas are
pretty common.

73 de Will KB9JTT

2040. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4jhg0t$4fc@abyss.West.Sun.COM>
Source record: 106386

In article <4jhaev$esv@crash.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:

[...]

>Heathkit, Collins and many others used the 6146 and its variants long
>before the Japanese entered the market. Yes, it's a good, rugged
>design and probably the most appropriate to the 100 watt output level.
>Actually, a pair of 6146B's will deliver about 120 watts in class AB1
>(SSB/CW) and about 160-170 watts in class C (CW only).
^^^^^^^^^^^^^^^^
Don't forget FM, FSK and plate modulated AM ;-).

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

2041. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: k2ek@aol.com
Message-ID: <4jhicb$atc@newsbf02.news.aol.com>
Source record: 106387

In article <4jg1om$77h@news01.deltanet.com>, dinod@deltanet.com (Dino Darling) writes:

> What is a good RF tube capable of
>100 watts output and what books do you suggest?
>
>I think Yaesu used the 6146 tube. Is this a good choice?
>
>

EVERYONE used a pair of 6146Bs with a 12BY7 driver... well, almost everyone.

Yes, that will make a good lineup. You can also use a pair of 807 or 1625 (the 12.6v equivalent) if you want to include the nostalgia element. For real fun, get hold of a 6L6 or 6DQ6... Either makes a nice 1 tube transmitter in the 15-25w range.

TV sweep tubes will work. One of my favorite activities was finding a junked TV by the curb on the way home from school and making a transmitter out of it by dinner time. The only "external" parts needed were a couple air variable capacitors, some wire and a crystal. Get hold of any ARRL handbook from the 60s or early 70s. They are loaded with ideas you can try and the tube tables are indespensible.

Bill K2EK

2042. Re: Digital Voltmeter circuit needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: dd@adobe.com
Message-ID: <4jhkc7$8t3@enquirer.mv.us.adobe.com>
Source record: 106388

In article <mzenierDowqM7.BDx@netcom.com>,
Mark Zenier <mzenier@netcom.com> wrote:
>in <4j93s0$bt2@newsbf02.news.aol.com>, K2EK wrote:
>: I would like to use digital display for an az-el rotator system. What is
>: needed are 2 dedicated
>: DVMs capable of reading 3.60 and 9.00 volts respectively... Obviously I do
>: not want to tie up
>: multiple DVMs. Seven segment LED display would be ideal.
>
>Why not, you can get digital panel meters or radio shack grade
>pocket DVMs real cheap. Jameco has some LCD DPMs for $15 in the
>last catalog I checked. Bound to be some LED units in the surplus
>market.

A lot of vendors have the "PM128" LCD DPMs for about $10. Circuit
Specialists also has the "PM129" LED version for $11.50.

I think these units use the 7126/7127. Note, they don't have a negative
supply generator, so the common mode input range does not extend to the
negative supply.

Circuit Specialists, Inc.
P.O. Box 3047
Scottsdale, AZ 85271-3047
(800) 528-1417
(602) 464-2485
(602) 464-5824 fax
http://www.cir.com/about/about.htm

2043. Re: Electronic Parts Store in DC Area?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: Larry Larson <pltrgyst@mailhost.mnsinc.com>
Message-ID: <315C9167.55C1@mailhost.mnsinc.com>
Source record: 106389
Cross-posted to: dc.general,rec.radio.amateur.homebrew

pp002614@interramp.com wrote:
>
> Does anyone know an electronic parts retail store (except Radio Shack) in
> Northern Virginia or Montgomery county, MD ? Thanks.

Arlington Electronic Wholesalers, on Lee Blvd., just off I-66 north from
the Spout Run exit.

2044. Re: Electronic Parts Store in DC Area?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: perryrt@flinthill.com
Message-ID: <4jhrdd$6fc@news.flinthills.com>
Source record: 106390
Cross-posted to: dc.general,rec.radio.amateur.homebrew

pp002614@interramp.com wrote:

>Does anyone know an electronic parts retail store (except Radio Shack) in
>Northern Virginia or Montgomery county, MD ? Thanks.

Yeah, there are several, actually. (I just moved from Alexandria). The
best, for my money, was Arlington Electronc Wholesalers, at 3636 Lee
Hwy (ph# 524-2412). Neat store..... the projects I could have done
from there! (drool, drool)
Also, for ham gear, try EEB (Electronic Equipment Bank) over in
Vienna. Those guys are the tops, both in price and "helpability".

Good luck!
>---
> Takashi Mori, AA9AT/4

Regards,

R. T. Perry
perryrt@flinthills.com
KF4BAL
GMOO

- The world is divided up into two groups of people: Those that use HP's, and those that yell "HEY! Where's the equals sign!"

2045. Re: Crystal Parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4jht99$bch@hpscit.sc.hp.com>
Source record: 106391

In article <4j7gjc$spe@delta.misha.net>, M Simon <msimon@rworld.com> wrote:
>
>How can I measure the L & C values for a quartz crystal.
>
>R is easy but L & C stump me.
>
>
>Simon

Measure the Q and then 6.28*F*L = R*Q and 6.28*F*C = 1/(R*Q).

To measure Q, find the frequency difference between +45 degrees of
phase and -45 degrees of phase (or between the 3dB down amplitude points).
The resonant frequency divided by this difference is the Q.

Rick N6RK
rkarlqu@scd.hp.com

2046. Re: Palomar HF Tube Amp Questions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ji24d$hg6@newsbf02.news.aol.com>
Source record: 106392

In article <4je6rg$ib4$1@mhadg.production.compuserve.com>, George Harris
<103021.3555@CompuServe.COM> writes:
>Tom,
>Thanks for your response but I believe you are incorrect. The amp
>has a Band Switch that goes from 10m to 80m and I've checked the
>output into a dummy load with my scope. The output frequency
>checks out properly although I haven't checked the signal with a
>spectrum analyser so I don't know how clean it is yet.
>Have a good day sir.
>
>73's

Hi George,

The problem isn't the lack of a band switch, the problem is in the amps
(lack of) biasing and the basic circuit design. IMD problems will not show
up on a scope, and show up only on a spectrum analyzer if the amplifier is
operated with a two carrier test.

Most Palomars wouldn't operate outside the upper end of the HF
spectrum.
They only worked near the CB band (because the RF chokes were too small).

All of the Palomars I'm aware of won't be "clean" for SSB or AM linear
operation. Palomar intentionally used a bias circuit (in some amps) that
promoted positive carrier shift (forward modulation in CB talk). In some
there was no bias at all, and that's a bit better.

Even if the model you have has the grids all grounded (no bias), two sweep
tubes
driving four is real nasty for IMD (unless the model you have happens to
have all six tubes in parallel, then it's better)! Come on now, since the
vast majority of them were two tubes driving four, what amateur exciter
would fit the 3 watt drive requirement? And by the way, what's the FCC ID
number on that "Ham Amp"??

Palomar designed and marketed amps into the CB market. The bandswitch was
a "clever" way to get around FCC rules. Palomar sold those models right
before the FCC put them out of the illegal CB amp business permanently.
They were never actually intended to be marketed to Hams, just CB'ers.

The Palomar amps were a better class class of CB amp (as opposed to the
Black Cats that ALSO had band switchs), but it was still a CB amp. These
amps, and the little mobile CB solid state amps, paid little attention to
linearity.

73, Tom

2047. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4jhacj$hop@hpcvsnz.cv.hp.com>
Source record: 106393

Ken Burtchaell (kburt@telis.org) wrote:
: I am looking for a method to simulate plated thru holes in thin(.010
: duroid).This is for small quanity work,one of a kind boards for amateur
: microwave projects.

: I had a thought about drilling holes in the board and filling them in
: with conductive epoxy.

: Any comments?

Some of the folk here doing prototyping in the 1-2GHz region were using a conductive ink successfully. It was heavily silver-laden. It was something sold in a "pen" for PC board repair work. Thier measured performance was only very modestly different from the plated through holes on the finished manufactured boards.

The way I've been doing vias on proto surface mount boards etched in my kitchen is to drill 0.0135" holes and put 30-gauge silver-plated wire-wrap wire through them, flattening over each end. The result stands off the board surface by perhaps 0.008", which may be more than you wanted for your RF seal, but if you put some RF gasket material in, it seems like it would OK. You could even run the 30 gauge wire all along that edge of the board, to make it uniform, if you can stand the height. (That's pretty thin material you are using!)

--
Cheers,
Tom
tomb@lsid.hp.com

2048. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Mar29.154310.498@nad.com>
Source record: 106394

In article <4jgupt$hpm@news.connectnet.com>, draagen@news.connectnet.com (David Negaard) writes:
> Ken Burtchaell (kburt@telis.org) wrote:
> : I am looking for a method to simulate plated thru holes in thin(.010
> : duroid).This is for small quanity work,one of a kind boards for
> : amateur microwave projects.
>
> : I had a thought about drilling holes in the board and filling them in
> : with conductive epoxy.
>
> : Any comments?
>
> : Tnx in advance. 73 Ken W6GHV
>
> I no longer remember what they're called, but when I was learning
> miniature and microminiature electronic repair in the Navy, we had
> these items that were essentially 'hole-liners,' and they worked
> great... They were sized to fit the through-hole, and had one rolled
> lip. The other lip was straight, but after inserting the item, the
> technician would flare the straight end, then flatten it, then solder
> both sides to the pads.
>
> 73 de KB0PXK

Rivets? For bigger holes and slots, use strips of copper foil or flashing.
Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

2049. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: "C. J. Hawley" <c-hawley@uiuc.edu>
Message-ID: <315BFF79.688B@uiuc.edu>
Source record: 106395

David Negaard wrote:
>
> Ken Burtchaell (kburt@telis.org) wrote:
> : I am looking for a method to simulate plated thru holes in thin(.010
> : duroid).This is for small quanity work,one of a kind boards for
> : amateur microwave projects.

> I no longer remember what they're called, but when I was learning
> miniature and microminiature electronic repair in the Navy, we had
> these items that were essentially 'hole-liners,' and they worked
> great... They were sized to fit the through-hole, and had one rolled
> lip. The other lip was straight, but after inserting the item, the
> technician would flare the straight end, then flatten it, then solder
> both sides to the pads.

I think they are just called eyelets. Look in the hardware section of
Allied Radio or Newark Electronics.

Charles Jack Hawley Jr.
Amateur Radio KE9UW (A.K.A. 'Chuck' in Ham Radio)
BMW K100RS, BMWMOA #224 (A.K.A. 'Jack' in Motorcycles)
c-hawley@uiuc.edu
Sr. Research Engineer Emeritus
Univ of Ill, Urbana-Champaign

2050. Motorola VHF Equipment Questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: nadzam@garlic.com
Message-ID: <4jgp7a$gh4_001@nadzam.garlic.com>
Source record: 106396
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

I have a friend that has come into some real nice Motorola
VHF equipment. She would like to know what this equipment is
worth, as she intends to sell it all.

1st. She has 6 Motorola VHF Power Amplifiers.
These are BRAND NEW in the ORIGINAL boxes. They
were obtained during the closure of an Airforce base.
They come with a Long Power Cable, and a Long coax cable.
These are all packaged as to be installed in a mobile unit
of some type. They have a TO-220 transistor driving
an RF-Power Transistor that has House markings.

Motorola #N1274A, Frequency 136-150.7 Mhz
Kit No. NLD7701A

The Amplifier is all brushed Aluminum.
2.5"H x 4.75"D x 6" W

What are these worth?
==========

Next She has Qty 3, P100 T-Band hand helds. 470-495 Mhz.

Last 1 HT90, also T-Band. Some have holsters, and all
have batteries.

What are these units worth?

==========

Name: Bill.Nadzam "K8WN"
E-mail: "Bill Nadzam" <nadzam@garlic.com>

2051. 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: rsill@cyberportal.net
Message-ID: <4jgila$52e@news.cyberportal.net>
Source record: 106397

Does anybody know what the differences are between a 6146B and a 6146W transmitting tube?

Bob W1FYO

2052. Help: Yaesu FT-5200 Mic Pin outs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: Al Wong <alwong@mitre.org>
Message-ID: <4jfcqn$bmo@linus.mitre.org>
Source record: 106461

Can anyone help me with the microphone pin outs on the Yaesu FT-5200

Thanks,
--
Al Wong The above opinion does not reflect that
KF4GDD of my employer. As with ALL my opinions,
alwong@mitre.org I write them, you intrepret them.

2053. Re: Etching Teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4jfg93$6k4@peabody.colorado.edu>
Source record: 106462

Teflon is impervious to almost everything. Including acids. Only two things are listed as being bad for it in tables of what plastics are compatible/ eaten by what chemicals. Only two get teflon: elemental fluorine, and molten alkali metals (sodium, potassium, etc...). For the latter, the reaction is basically C-F + Na -> C + NaF, the latter which is like salt (NaCl) and very stable. What happens to the carbon is its own problem, and the reacted surfaces become dark, suggesting soot-ification.

Teflon etchants based on the latter reactivity are dispersions of fine alkali metal particles in an organic (not water!!) based syrup. Not something to homebrew unless you are used to dealing with alkali metals, and not something to treat carelessly. But you can buy it.

But all the things you might be tempted to try: nitric, sulfuric, hydrochloric, hydrofluoric, and perchloric acids, and also Aqua Regia (HNO3 + HCl), Piranha (H2SO4 + H2O2), and also strong bases (lye, etc) have no effect on teflon.

Bruce
N6URH

2054. PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4jfhlc$psk@mentor.telis.org>
Source record: 106463

I am looking for a method to simulate plated thru holes in thin(.010 duroid).This is for small quanity work,one of a kind boards for amateur microwave projects.

I had a thought about drilling holes in the board and filling them in with conductive epoxy.

Any comments?

Tnx in advance. 73 Ken W6GHV

2055. Re: Etching Teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <4jfoqt$at9@news.asu.edu>
Source record: 106464

In a previous article, flegler@pilot.msu.edu (Stanley L. Flegler) says:

>I'm working on a project where I want to glue some Teflon to a surface
>for insulation. I've heard that you need to etch it before glue will
>adhere properly. I presume that an acid is needed. Does anyone know
>which acid, what concentration, and how long? 73 Stan K8RPA,
>flegler@pilot.msu.edu
>
>
Not an acid, a very strong base. In the good old days, it was sodium
amide. Made by dissolving sodium metal in liquid ammonia, not something
I would want to do and I'm a chemist. These days sodium naphthenate is
used. You can buy it under the name Tetraetch. You dip the board in
the solution, then you have to rise off the naphthalene residue with
acetone and then hot water.

It is still not a real pleasant process. It is one reason printed circuit
shops don't like to work with Teflon. It is really needed to get a plated
through hole to stay in place.
--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

2056. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <4jfp3r$b2i@news.asu.edu>
Source record: 106465

In a previous article, kburt@telis.org (Ken Burtchaell) says:

>I am looking for a method to simulate plated thru holes in thin(.010
>duroid).This is for small quanity work,one of a kind boards for amateur
>microwave projects.
>
>I had a thought about drilling holes in the board and filling them in
>with conductive epoxy.
>
>Any comments?
>
>Tnx in advance. 73 Ken W6GHV
>
>
You would be better off putting a wire through the hole and soldering
it to the copper on both sides, then cutting off any excess. Many
people use copper eyelet rivets if they can't do plated through holes.
The conductivity of conductive epoxy is not that great in as small a
cross section as a hole.
--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

2057. Re: schematics for VHF amp using 2c39 / 4cx250 ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4jfpld$7u9@crash.microserve.net>
Source record: 106466

In article <Pine.PCN.3.91.960328180505.7053A@[130.115.53.110]>,
129432pd@mstore.eur.nl says...
>
>
>
>G'day everyone,
>
>I'd like to know if anyone has schematics for a VHF amp using those
>valves (esp. the 2c39). Even though valves may seem old-fashioned,
>they're still the cheapest way to get quite a lot of power in the air
for
>very little money. (a used 2c39 costs about 10 dutch guilders, which
is
>about 7US$). Compare that with the price of a BLX/BLY VHF
power-transistor!
>

Avoid coil type tank cicuit for 4CX250 and it's relatives when
working above 70-90 mhz. The circulating currents are unpredictable,
and the ovrall efficiency drops off rapidly. Coax tanks are forgiving
at 2M vhf after a small learning curve. Almost any ARRL handbook from
1965 to present has good homebrew amp ideas. Do you have access to
these books? 73 KD3SH

2058. Electronic Parts Store in DC Area?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: pp002614@interramp.com
Message-ID: <4jfsh4$p9a@usenet7.interramp.com>
Source record: 106467
Cross-posted to: dc.general,rec.radio.amateur.homebrew

Does anyone know an electronic parts retail store (except Radio Shack) in
Northern Virginia or Montgomery county, MD ? Thanks.

Takashi Mori, AA9AT/4

2059. Re: Help w/conductive epoxy

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: frankb2686@aol.com
Message-ID: <4jg0jb$srr@newsbf02.news.aol.com>
Source record: 106468

Mouser Electronics Catalog lists conductive epoxy. Also some larger electronics stores stock it.

73 Frank WD6AGS

2060. Re: Palomar HF Tube Amp Questions?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: dinod@deltanet.com
Message-ID: <4jg1b4$77h@news01.deltanet.com>
Source record: 106469

In article <4jcgrq$jci@newsbf02.news.aol.com>, w8jitom@aol.com says...
>
>In article <4jbs9l$hs4$1@mhafn.production.compuserve.com>, George Harris
><103021.3555@CompuServe.COM> writes:
>
>>I've just purchased a Palomar HF Multi-Band Tube Amp at a
>>HamFest. I can't find a model number on the unit to identify it.
>>Palomar Electronics is no longer in business so they can't help
>>me. Can anyone help me to identify the unit I have and a possible
>>source for Schematics.
>>
>>P.S. The unit uses 6 6LF6 Tubes.
>>
>>Thanks Alot!
>>
>>George
>>
>>
>
>Hi George,
>
>That was a CB amp. Good luck on getting it to work on the ham bands. Even
>if you get it to put out RF, it will be a NASTY dirty signal.
>
>Palomar got out of the illegal CB trade.
>
>73 Tom

Tom, the 300-A was a 80, 40, 20, 10 meter amp. I have one.

2061. Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: dinod@deltanet.com
Message-ID: <4jg1om$77h@news01.deltanet.com>
Source record: 106470

Hello! I would like to build a tube transmitter (not amplifier).
I need to learn more about tubes and I need YOUR help. It is my
understanding that you can use TV sweep tubes for transmitters BUT that
this parctice is NOT recommended. What is a good RF tube capable of
100 watts output and what books do you suggest?

I think Yaesu used the 6146 tube. Is this a good choice?

My goal is to BUILD my own transmitter/receiver and to put the Amateur
back in radio. THANKS!!!

Dino Darling KC6RIX
dinod@deltanet.com

2062. Question r.e. digital link...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: jlutes@netcom.com
Message-ID: <jlutesDp0oC9.I29@netcom.com>
Source record: 106471

Can anyone offer suggestions for the following:

I need to transmit 9600 baud asynchronous data via radio. I'm looking for the ultimate combination of cheap, simple, reliable (ok, pick any two :) The trasmitter/receiver system should meet the following criteria:
1) usable range up to 1/4 mile
2) crystal controlled frequency (for stability)
3) 9 to 12 volt power source
4) preferably FM
5) minimal parts count
6) receiver to have low quiescent current draw (preferably)

Being as how I am principally a digital designer, this is a rather daunting challenge for me. I'm hoping someone can point out an elegant, simple solution. I have several projects that would benefit (read: be possible) from such a system (both transmitter and receiver). Email is OK. Thanks !

- jeremy

2063. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4jgk5k$2d0@mentor.telis.org>
Source record: 106472

Tnx for the reply.I have used both the methods that you suggest.The problem with them is you lose the flat plane surface of the ground plane side which is essential in getting a good rf bond at microwave frequencies to the enclosure and the associated input and output connectors.

73 Ken W6GHV

2064. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: draagen@news.connectnet.com
Message-ID: <4jgupt$hpm@news.connectnet.com>
Source record: 106473

Ken Burtchaell (kburt@telis.org) wrote:
: I am looking for a method to simulate plated thru holes in thin(.010
: duroid).This is for small quanity work,one of a kind boards for
: amateur microwave projects.

: I had a thought about drilling holes in the board and filling them in
: with conductive epoxy.

: Any comments?

: Tnx in advance. 73 Ken W6GHV

I no longer remember what they're called, but when I was learning miniature and microminiature electronic repair in the Navy, we had these items that were essentially 'hole-liners,' and they worked great... They were sized to fit the through-hole, and had one rolled lip. The other lip was straight, but after inserting the item, the technician would flare the straight end, then flatten it, then solder both sides to the pads.

73 de KB0PXK

--
San Diego District Youth Leader
David Negaard phone: (619) 761-0280
625 Shenandoah Avenue mailto:draagen@connectnet.com
San Marcos, CA 92069 http://www3.graceland.edu/~jrmj/negaard

2065. Re: Want info: Cubic Corp 1201 HF Tcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jh38h$dof@crash.microserve.net>
Source record: 106474
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

david@comms.ee.man.ac.uk (David Tait) wrote:

>Several years ago now I bought (cheaply) a HF transceiver which
>was badged "AEL 1201". The company AEL claimed to have no knowledge
>of such a radio. Recently I learned that the 1201 was actually
>only distributed by AEL and then only for a short period. It seems
>the radio was built by Cubic Corporation (I think). I would be
>very grateful if anyone could supply me with contact details for
>Cubic, or better still, let me know where I can get information
>(just the schematic would be great) on this radio. It has a
>TTL based synth giving 12 channels and I would like enough info
>to be able to homebrew a replacement synth/VFO.

In case you don't find a schematic, service literature for equipment
manufactured by Cubic Communications is available from:

Brock Publications
P.O. Box 5004
Oceanside, CA 92052
(619) 757-0372

73,
Jack WB3U

2066. Re: DTMF Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4jh1sc$l9o@news3.cts.com>
Source record: 106475

Patrick Millar (millarp@midwal.ca) wrote:

: I am looking for a DTMF decoder chip. Can anyone recommend a particular
: model?

The 8870 works well and is available from a number of mfgrs in
both DIP and surface mount styles:

Mitel MT8870
Teltone M-8870
also available from Starbuck (Exar) and National

John Kolb KK6IL

2067. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9602298281.AA828122178@mail.creo.bc.ca>
Source record: 106476

Other sources of cheap parabolic dishes include lampshades (read G3RUH's classic article), certain saucepan lids (my wok's lid looks about right... :-), some garbage can lids, and those saucer-shaped snow sleds. If the object is the right shape, but not conductive, a few minutes work with aluminium foil and glue will fix the problem.

There was also an article in VHF Communications 1/1995 on offset feed dishes. The 1/1996 issue has an article on simple VHF/UHF antennas, including short backfire antennas - the ones you can make out of cake pans. Just like the Phase 3D folks.

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

2068. Re: Crystal Parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <4jh81o$mfp@murrow.corp.sgi.com>
Source record: 106477

In article <4j7gjc$spe@delta.misha.net>, msimon@rworld.com (M Simon) writes:
|>
|> How can I measure the L & C values for a quartz crystal.
|>
|> R is easy but L & C stump me.
|>
|>
|> Simon
|>

In the followups I am surprised that noone mentioned the
ARRL "QRP Classics" and older handbooks. Doug Demaw, W1FB,
wrote an article in QST on how to measure crystal parameters
Q, R, and others which I forget and don't have the stuff
here in front of me. The article had a couple of circuits
used along with a frequency counter to determine parallel
and series resonant values and crystal activity.

FAR Circuits has the PC board available and copy of the
article. To see the pricing for this board and others
go to ftp.LeHigh.EDU (caps to prevent you from thinking
that's a one instead of a lower case L in lehigh) as anonymous.
Change directory to /pub/listserv/qrp-l/catalogs and you'll
find two files, farlist.txt and farorder.txt. When you first
see them you will see a .Z appended. That means they are
UNIX compressed. Not to worry, when you do a 'get' do it
without the .Z and you'll get them uncompressed. Dweeb stuff
going on here gang. :-)

One file is the catalog and the other is order form, both in
ASCII. I got them from Fred on messy-dos disk and copied
them to LeHigh.

I am not a stockholder in FAR Circuits and not associated
with FAR Circuits. Just info for your use.

dit dit
--
Chuck Adams (K5FO CP-60) adams@sgi.com
Box 181150, Dallas, TX 75218-8150

2069. Re: Etching Teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-29 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4jh82b$pr7@nadine.teleport.com>
Source record: 106478

In article <4jfoqt$at9@news.asu.edu>,
ballnt@aztec.asu.edu (John Ballentine) wrote:
>
>In a previous article, flegler@pilot.msu.edu (Stanley L. Flegler) says:
>
>>I'm working on a project where I want to glue some Teflon to a surface
>>for insulation. I've heard that you need to etch it before glue will
>>adhere properly. I presume that an acid is needed. Does anyone know
>>which acid, what concentration, and how long? 73 Stan K8RPA,
>>flegler@pilot.msu.edu
>>
>>
>Not an acid, a very strong base. In the good old days, it was sodium
>amide. Made by dissolving sodium metal in liquid ammonia, not something
>I would want to do and I'm a chemist. These days sodium naphthenate is
>used. You can buy it under the name Tetraetch. You dip the board in
>the solution, then you have to rise off the naphthalene residue with
>acetone and then hot water.
>
>It is still not a real pleasant process. It is one reason printed circuit
>shops don't like to work with Teflon. It is really needed to get a plated
>through hole to stay in place.

Is an adhesive used to bond Teflon to other surfaces? I was under the
impression that it was mechanically bonded. If an adhesive is used, what is
it?

Roy Lewallen, W7EL

2070. Re: Ten-Tec 1209 transverter kit: comments?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: johnoz@indy.net
Message-ID: <4jhu3r$ji6@news.indy.net>
Source record: 106398
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4jap1k$36g@newsbf02.news.aol.com>, parf@aol.com (Parf) wrote:
>Hi Dean,
>While I have not built the TT kit I did hear a # of them on 6M last Es
>season- they were consistantly the nicest sounding sigs on the air.
>Previous postings here indicate the instructions hark back to the
>excellent days of Heath. Note also they now have a 2M to 6M downconverter
>to place your 2M all-mode on 6. I've been told the 1st run is sold out! I
>have no affiliation w/ TT in fact I don't own a TT!- but if I had serious
>interests in HF I would own nothing but TT.
>
>Dale WA2YPY

Ordered 1209 today, salesmam quoted 3 week delivery delay.

John KB9MIE

2071. Anyone willing to help on a Homebrew project???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: heinlein@mailhost.iconn.net
Message-ID: <4jhv2a$jm7@news.iconn.net>
Source record: 106399

Hi,
I'm trying to connect with someone that knows a lot more about electronics than my bare-bones basics. I'm trying to design a circuit that will let me do the following when I hook up my HT in my car:

1- Automatically divert my regular stereo output to a dummy load when a signal is incomming to the HT and breaks the squelch (would prefer to be solid state switch, but willing to live with mechanical relays for each channel of the stereo)

2 - Would like to be able to divert the audio output from the HT (at the same time) to an amplifer on the circuit board and put through one or more speakers of the existing stereo system. (This is not as important as the first goal, but would be nice as a part of the whole circuit)

NOW - Some of the basics that I understand (so noone thinks that I'm a complete idiot <G>) :

- Know that I don't want to change the impedence on the HT's audio output and screw up it's audio output transistor...

- Know that if I DO use mechanical relays for the switching of the stereo speaker's output, will need to had diodes to prevent spikes

- Know that the general circuit design should be a case of a saturated transistor activating the switching action

- I HAVE built a circuit using a small audio transformer that worked, but would prefer to remain as solid state as possible (possibly even using IC's - considering the enviroment)

I know that this will require quite a bit of correspondence (will use bmp files zipped down to show schematic ideas)... I would prefer to be able to get most or all parts through a typical Radio Shack since some friends will probably want me to make more for them as well....

Okay folks - any patient teachers out there???? <GGG>

-Mark (N1LQO)
heinlein@mailhost.iconn.net

2072. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: HATP34A@prodigy.com
Message-ID: <4ji1qs$2ak6@usenetw1.news.prodigy.com>
Source record: 106400

Wouldn't want to knock those old sweep tubes. I believe Drake utilized some for a few of their xmtrs, and had good results ! 6146's are quite common however. I recently got 7 working ones in a five dollar box of "junk parts" .

Good luck

Ed K . KB2NSP

2073. Re: Etching Teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <4ji6fr$4j0@news.asu.edu>
Source record: 106401

In a previous article, w7el@teleport.com (Roy Lewallen) says:

>
>Is an adhesive used to bond Teflon to other surfaces? I was under the
>impression that it was mechanically bonded. If an adhesive is used, what is
>it?
>
>Roy Lewallen, W7EL
>
If you etch it first, epoxy adhesives will give a fairly good bond.
I forgot to mention in the other post that plasma etching is sometimes
also used. It isn't something most of have access to.

Stripline and mutilayer circuits using teflon boards are usually bonded
by use of a bonding film. The film is a fluoropolymer with a lower melting
temperature than PTFE Teflon. A hot press or an autoclave is used to press
the layers together and melt the bonding film. You can also do direct
bonding where the two boards are heated under pressure at a temperature where
the PTFE Teflon melts. That is about 700 F, so most shops don't have the
press that can reach this temperature.

In the early days of striplines, they did use rivets, screws, clamps, etc.
to hold the layers together. The problem is that Teflon "creeps", it flows
under pressure. The pressure of the mechanical fasteners would be releaved
by the creep and eventually the layers would not be held together tightly.
--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

2074. Paper for Toner transfer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4jicpt$bng@mentor.telis.org>
Source record: 106402

>I picked up some "cooking paper" at my local grocery store for $2.50.This is a roll(16.5Ftx11.875In) described as a non-stick linin=
g for baking.The paper is too thin to pass thru my printer by itself so I mounted it to a ordinary sheet of printer paper.I printed =
some artwork to the sheet,ironed the sheet to a board and then just cooled the whole board assembly in water.This sheet then peeled =
neatly away from the board leaving the toner completelylattached to the board. 73 Ken W6GHV

2075. Re: Amp. Tank Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4jigo5$n6h@newsbf02.news.aol.com>
Source record: 106403

Hi Mike,
In article <315B297E.1352@interserf.net>, Mike Sims
<nasfred@interserf.net> writes:

>Situation is a 4CX1600 amp. using a pi/L tank. The amp./tank circuit
>works okay on 20, 15 and 10 meters (efficiency). However, on 40 and
>80ty meters the efficiency is way off and the output capacitor on the
>tank circuit are at max. capacity. I have padded additional capacitance
>across the output capacitor to above the calculated value. The tank's
>input capacitance tunes the band okay.

If the loading cap is at maximum C , it's a sign something in the tank is
off. Pi-L's can behave strange if component values are off. There are
several modes of operation the network could be in if some value is off.

What did you use for the median impedance of the network? By that I mean
the design impedance at the loading capacitors connection point. Or where
did you get the values?

How do you know the inductors are the right values when mounted in the
final operating location? Did you measure them (and how) or just calculate
the sizes?

>The L or output coil is made of a small air wound coil for ten meters
>and a coil wound on three T200-6 toroids using number 12 wire. The
>inductance and appropriate taps was measured using a Autek Analyzer at
>the frequency of use.

If the toroid core has tapped turns to switch bands, it could be trouble.
There isn't enough flux leakage to allow proper use of most cores in
tapped resonant circuits.
The mutual coupling can get you in trouble fast. I wouldn't trust the
Autek fully in this application, the simple scheme it uses to measure L or
C is subject to error.

Remember ferrous cores change permeability with frequency, so inductance
needs to be measured somewhere around the operating frequency. I don't
have any info on a -6 core. Maybe the material isn't good?

>Will be trying an air core coil on forty meters to see if the toroid is
>causing the problem.

That may be a good idea.

Another thing is all tubes can behave poorly on some frequencies,
depending on bypassing. Tetrodes are a particular headache.

Is the cathode grounded directly? How big is the screen bypass?

73 Tom

2076. Re: Low Frequency Counter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jihra$l29@crash.microserve.net>
Source record: 106404

ranecurl@engin.umich.edu (Rane Curl) wrote:

>I need a simple (cheap) low frequency timed counter with an LCD
>display. Frequencies up to ca. 100 cps; timing intervals of the order
>of 10-50 seconds. Seems simple enough, but I have not seen a kit or
>even small (ca. 5 digit) LCD display at a low price. Suggestions?

A frequency counter with a Period function is useful for this,
although you have to convert the readout to frequency. In the Period
function, the clock is reset by the signal, not the internal timebase.
So, the lower the frequency, the longer the elapsed time that reads on
the display. This is probably the best way to accurately measure very
low frequency signals.

Other than that, I suppose you could buy a counter with a 10 MHz
timebase and replace the crystal with a 1 MHz or 100 KHz equivalent.

73,
Jack WB3U

2077. Re: Anyone willing to help on a Homebrew project???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jimei$lqm@crash.microserve.net>
Source record: 106405

Post / CC by mail

heinlein@mailhost.iconn.net (Mark) wrote:

>1- Automatically divert my regular stereo output to a dummy load when
>a signal is incomming to the HT and breaks the squelch (would prefer
>to be solid state switch, but willing to live with mechanical relays
>for each channel of the stereo)
>
>2 - Would like to be able to divert the audio output from the HT (at
>the same time) to an amplifer on the circuit board and put through
>one or more speakers of the existing stereo system. (This is not as
>important as the first goal, but would be nice as a part of the whole
>circuit)

Hi Mark,

I posted something to another radio group recently on this same topic. Rather than reinvent the wheel, I've reprinted it below. Incidentally, there is no need to connect the output of a solid-state audio amp to a dummy load. That's a holdover from tube circuits, where the voltage across the secondary of the output transformer could rise without a load and short the transformer. The only (resistive) load that's harmful to solid-state audio amplifiers is one that's too low an impedance.

Reprint follows:

This is difficult to do with passive circuitry because the signal from one radio cannot be allowed to feed back into the output amplifier of another. I can think of two ways to do this:

First, the output of each radio is fed to a high-value resistor (2-10,000 ohms). The opposite end of the resistors are tied together and fed to an audio amplifier that drives the speaker. Of course, this requires that power be applied to the mixer. If it is desired to separate the signals so that only one radio is heard at a time, some type of logic circuit would also be required.

The second method would work by sampling the output of each radio through a low-value resistor, say 20-50 ohms, and feeding each sample to a rectifier and filter. The output of each filter would drive a sensitive DPDT reed relay. One pole of the relay would connect the output of the active radio directly to the speaker, the other pole would be wired in a way to lock out all the other radios. There would be a *slight* connect and disconnect delay due to the filters,

but this would be a totally passive system.

Additional note: In the system you described, the second method above would only require one rectifier/filter and one DPDT relay. Also, do not attempt to use the chassis of the vehicle, the stereo or the HT as a common ground to the "negative" speaker terminal (in order to use a simpler relay). If you can't find the relay needed for this project and you need to leave the negative speaker lead connected to the stereo and HT all the time, be sure to check the speaker terminals first for the presence of DC. Higher power car decks apply 1/2 VCC (about 6.7 VDC) to both sides of the speaker.

73,
Jack WB3U

2078. Data on CB1 FM Rx. chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199603300641.QAA14858@dyson.brisnet.org.au>
Source record: 106406

I recently looked at a FM receiver of UK origin which used what appeared to be a single conversion FM if chip witha Pll demodulator. it was marked PS SB followed by CB1.
Can anybody help with data on this chip?
Tnx. Peter Williamson VK4AWP

2079. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: hbaker@netcom.com
Message-ID: <hbaker-2903961925210001@10.0.2.15>
Source record: 106407

In article <9602298281.AA828122178@mail.creo.bc.ca>, lhalliday@creo.bc.CA wrote:

> Other sources of cheap parabolic dishes include lampshades (read
> G3RUH's classic article), certain saucepan lids (my wok's lid looks
> about right... :-), some garbage can lids, and those saucer-shaped
> snow sleds. If the object is the right shape, but not conductive, a
> few minutes work with aluminium foil and glue will fix the problem.

I would imagine that an umbrella would work, so long as you stayed within
a million miles or so of it to make sure that it opens... :-)

--
www/ftp directory:
ftp://ftp.netcom.com/pub/hb/hbaker/home.html

2080. Re: antennae for SS communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: hbaker@netcom.com
Message-ID: <hbaker-2903961927160001@10.0.2.15>
Source record: 106408

In article <4jhfbo$oa5@news.inc.net>, Will Flor <willf@rrgroup.com> wrote:

> Lanier.r.a@nort.bwi.wec.com (Robert A. Lanier) wrote:
> >I am looking for information on antennae for spread-spectrum
> >communications. Can I use a regular Yagi or dipole or do I need a
> >special configuration (hybrid?) ?
>
> You don't need any special type of antenna; the only thing you
> have to be careful of, especially with high-gain directional
> antennas, is that the SWR remains low across the entire band
> segment your transmisison is being spread around. To link
> remote sites to a central main site ("star" configuration)
> I've used regular Yagis at the remote sites and an omnidirectional
^^^^^^^^^^^^^^^^^^^^^^^...
> multi-bay vertical at the central site, all on 900 MHz using
> frequency-hopping SS. For shorter ranges patch antennas are
> pretty common.

Could you tell us more about your setup, including type of equipment,
power, distances, data rates, etc. ??

--
www/ftp directory:
ftp://ftp.netcom.com/pub/hb/hbaker/home.html

2081. Mac Ham Users Group

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-3003960409210001@wd1v.mv.com>
Source record: 106409

"Macnet Roster" (ver. 739) has just been updated and is now a stand-alone application! The version number = the number of hams using Macs.

"Macnet Roster" lists:

o CALL SIGN @ HOME PBBS
o FULL NAME
o ADDRESS
o CITY, STATE, ZIP
o INTERNET ADDRESS
o MACS USED
o RADIOS USED
o SOFTWARE USED
o PASSIONS
o COMMENTS

of every known amateur radio operator in the world that uses a Mac computer.

You can use "Macnet Roster" to find other Mac users that you can then communicate with directly. Compare notes on software, applications, ideas, hints and kinks, and make new ham friends that use the same computer you do. (You already know how cool you are - imagine accessing "the rest of us"!)

If you'd like the latest "Macnet Roster":

Send me a formatted disk in a self addressed and stamped disk mailer that is in a large envelope clearly marked "ROSTER".

Or connect to my home page via the WWW

http://www.mv.com/ipusers/wd1v

Put YOUR INFO (via EMAIL or disk using TEACH TEXT) if you'd like to be included in the "Macnet Roster" or send an update to your stats to me via pkt or email anytime.

John D. Seney |_|_|_|_| e-mail: john@wd1v.mv.com
144 Pepperidge Dr |_| |_| www http://www.mv.com/ipusers/wd1v
Manchester, NH 03103-6150 |_|_ _|_| wireless: wd1v@wb1dsw.nh.usa.noam
Voice Mail: 603-533-3472 | | | | | skytel page: 5956779@skymail.com

2082. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4jj9im$gmm@mentor.telis.org>
Source record: 106410

Thank you Tom for the ideas.I will try them out 73 Ken W6ghv

2083. mailing list and newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: pkimball@lasernet.COM
Message-ID: <60329203434$71C7@lasernet.com>
Source record: 106411

Hello, Iam the sys admin for Lasernet.com. I had a user by the name
of Richard Wilkerson who subscribed to your mailing list and a newsletter. He is no longer with us, and he failed to unsubscribe.
Please remove him and any one from lasernet.com who my be on your
mailing lists.

Thank You kindly,

Paul Kimball, pkimball@lasernet.com

2084. Re: Amp. Tank Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar30.154524.16558@ke4zv.atl.ga.us>
Source record: 106412

In article <4jigo5$n6h@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>
>Remember ferrous cores change permeability with frequency, so inductance
>needs to be measured somewhere around the operating frequency. I don't
>have any info on a -6 core. Maybe the material isn't good?

The cores could be *saturating* too, and that'd be really bad news.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2085. Re: Low Frequency Counter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Mar30.155309.16637@ke4zv.atl.ga.us>
Source record: 106413

In article <4jihra$l29@crash.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
> ranecurl@engin.umich.edu (Rane Curl) wrote:
>
>>I need a simple (cheap) low frequency timed counter with an LCD
>>display. Frequencies up to ca. 100 cps; timing intervals of the order
>>of 10-50 seconds. Seems simple enough, but I have not seen a kit or
>>even small (ca. 5 digit) LCD display at a low price. Suggestions?
>
>A frequency counter with a Period function is useful for this,
>although you have to convert the readout to frequency. In the Period
>function, the clock is reset by the signal, not the internal timebase.
>So, the lower the frequency, the longer the elapsed time that reads on
>the display. This is probably the best way to accurately measure very
>low frequency signals.
>
>Other than that, I suppose you could buy a counter with a 10 MHz
>timebase and replace the crystal with a 1 MHz or 100 KHz equivalent.

Ramsey (yeah, I know) offers a frequency multipler for this use.
It multiplies the input frequency by 10x or 100x before presenting
it to the counter. This lets you measure low frequency signals with
better precision (if not accuracy) on an ordinary counter. I've
used it to precisely measure audio frequencies. An oscilloscope
and a precision frequency source is a better method, however.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2086. baycom modem info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: jessica <jhoo219@pop.crown.net>
Message-ID: <4jk3rk$82n@kiwi.crown.net>
Source record: 106414

how can a send a print of a modem here on the net to someone.
i did this print from a shareware program call circad...
the is print is of a baycom modem useing the xr2211 and 2206 ic..
got any ideal.. de n9fdf toby

2087. Re: Silver Plating ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jjv72$pa5@crash.microserve.net>
Source record: 106415

w8jitom@aol.com (W8JI Tom) wrote:

>A magnetic material may be very low loss at HF, and extremely
>dissipative at UHF or higher.

For most HF work, I worry more about the dielectric constant than
the dissipation factor. Generally speaking, unwanted capacitance is
more troublesome below 30 MHz than the loss within the material.

Considering that glass has one of the the highest delectric constants
of commonly-used materials, I don't think the microwave test provides
any useful information in this regard.

73,
Jack WB3U

2088. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jjvkr$pa5@crash.microserve.net>
Source record: 106416

tomb@lsid.hp.com (Tom Bruhns) wrote:

>The way I've been doing vias on proto surface mount boards etched in
>my kitchen is to drill 0.0135" holes and put 30-gauge silver-plated
>wire-wrap wire through them, flattening over each end. The result
>stands off the board surface by perhaps 0.008", which may be more
>than you wanted for your RF seal, but if you put some RF gasket
>material in, it seems like it would OK.

This is what conductive epoxy is for - even thru-plated holes may not provide a sufficiently level surface to avoid its use. Many microwave equipment manufacturers buy the epoxy in sheets and sandwich it between the board and enclosure.

73,
Jack WB3U

2089. Re: Amp. Tank Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jk0au$pa5@crash.microserve.net>
Source record: 106417

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>The cores could be *saturating* too, and that'd be really bad news.

That was my first reaction, too. Flux is generated within the core as a function of volts-per-turn. This particular application probably places a considerable voltage across the winding and probably doesn't require a large number of turns.

My news server isn't showing the original article yet, but if the number of turns and the input/output impedance (or voltage across the toroid) was posted, I could calculate the flux.

73,
Jack WB3U

2090. VHF/UHF preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: Philip Venter <philipv@iafrica.com>
Message-ID: <4jk98r$83u@newnews.iafrica.com>
Source record: 106418

I would like to obtain a circuit diagram for a low noise
preamp, using standard components and a simple layouit

2091. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4jk672$4gk@orange.iap.net.au>
Source record: 106419

Ken Burtchaell <kburt@telis.org> wrote:

>Tnx for the reply.I have used both the methods that you suggest.The
>problem with them is you lose the flat plane surface of the ground plane
>side which is essential in getting a good rf bond at microwave
>frequencies to the enclosure and the associated input and output
>connectors.

>73 Ken W6GHV

If they're the "one-off" kind of thingy, why not just drill
the hole thru and solder both sides with a wire lead
going through?

Uncle Brian VK6BQN

2092. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4jk6vv$lli@mentor.telis.org>
Source record: 106420

Again thanks to all for the fine comments.
I ran a quick test using the conductive
epoxy pencil and it looks very promising
73 Ken W6GHV

2093. Re: Amp. Tank Circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4jkiq1$d6k@newsbf02.news.aol.com>
Source record: 106421

In article <4jk0au$pa5@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>That was my first reaction, too. Flux is generated within the core as
>a function of volts-per-turn. This particular application probably
>places a considerable voltage across the winding and probably doesn't
>require a large number of turns.
>
>My news server isn't showing the original article yet, but if the
>number of turns and the input/output impedance (or voltage across the
>toroid) was posted, I could calculate the flux.
>
>73,
>Jack WB3U

The cores could be saturating, but that's unlikely. In that case, the
cores would be getting VERY hot.

Sounds more like the design impedance is way off.

73 Tom

2094. Re: Low Frequency Counter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: hh357@aol.com
Message-ID: <4jkm9v$e6u@newsbf02.news.aol.com>
Source record: 106422

Startek sells a counter that starts at 10 Hz. Price about $149.
cheers

2095. Re: VHF/UHF preamp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4jl075$hek@newsbf02.news.aol.com>
Source record: 106423

It would be best to get a copy of the ARRL Handbook. Any one of the last ten year's editions will have a discussion of several different possible circuits.

Good luck.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2096. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-30 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.111.003A0258@azstarnet.com>
Source record: 106424

In article <4jfhlc$psk@mentor.telis.org> Ken Burtchaell <kburt@telis.org> writes:
>From: Ken Burtchaell <kburt@telis.org>
>Subject: PCB plated thru holes
>Date: 29 Mar 1996 02:24:44 GMT

>I am looking for a method to simulate plated thru holes in thin(.010
>duroid).This is for small quanity work,one of a kind boards for amateur
>microwave projects.

>I had a thought about drilling holes in the board and filling them in
>with conductive epoxy.

>Any comments?

>Tnx in advance. 73 Ken W6GHV

Avoid this method. We have even had trouble with plated vias on alumina substrates when they became filled with conductive epoxy that was used for component attach. The epoxy shrinks during cure and "detaches" the plating from the surface conductors. If inductance is critical (isn't it always?) the inductance of a solid via will be different from a hollow one. A ribbon through the hole is probably the best you can do.

Good luck,
Wes -- N7WS

2097. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <4jmcn7$mu3@mgate.arrl.org>
Source record: 106329

Ken Burtchaell <kburt@telis.org> wrote:

>I am looking for a method to simulate plated thru holes in thin(.010
>duroid).This is for small quanity work,one of a kind boards for amateur
>microwave projects.

>I had a thought about drilling holes in the board and filling them in
>with conductive epoxy.

>Any comments?

Hi, Ken.

It might be a lot easier to fill the holes with a small piece of wire soldered to the two pads you want "plated through." Manufacturers buy true double-sided boards to save production costs and time, but home constructors can usually afford the few extra minutes to do it the "hard" way.

BTW -- the 1995 ARRL Handbook has a nice sidebar on how to homebrew double-sided boards using this technique. It is found in the circuit-construction chapter.

73 from ARRL HQ, Ed Hare, KA1CV, ARRL Lab Supervisor

2098. How to make rubber stamps ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: arielbp@marganit.weizmann.ac.il
Message-ID: <1996Mar31.173231.20424@wisipc.weizmann.ac.il>
Source record: 106330

Please don't flame me, I know this is a bit outside the scope
of this newsgroup, but I do have a good excuse: I need them
rubber stamps to be able to instantly turn plain postcards
into QSLs.

Can anyone tell me how to make my own rubber stamps from my
design of text and graphics ? I am wondering if there are any
special purpose supplies for that, something along the lines
of a printed circuit do-it-yourself kit ?

Yes, I know I can send it to one of a zillion places and have
it done for a few bucks, but I'd like to make it myself anyway...

Thanks,

73s,

Ariel. (4Z1BP, AA2MQ)

Ariel Ben-Porath
Dept. of Applied Math & Computer Science
Weizmann Institute of Science
Rehovot, ISRAEL

e-mail arielbp@wisdom.weizmann.ac.il
tel. 972-8-934-4206
fax. 972-8-934-4140

2099. NEED R-390A Meters! Can Anyone Help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: George Sereikas <SEREIKAS@worldnet.att.net>
Message-ID: <4jmh1t$1s5@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 106331

Thanks for reading this message. I am looking for the meters for
my Collins R-390A receiver. One is the "Carrier Level" meter and
the other is the "Line Level Meter". If anyone has either of
these meters (or one of them) or knows where I can find them, I
would appreciate your getting back to me. Thanks much!
George
KC2MF
sereikas@worldnet.att.net

2100. * * * AFFORDABLE QSL CARDS * * *

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: MMcanally@gnn.com
Message-ID: <4jmkhf$fai@news-e2b.gnn.com>
Source record: 106332

After some checking, I found out that QSL cards cost anywhere from $70.00 to $450.00 per 1000 cards to be printed up. I also found out that you are pretty limited to the color of card, artwork and color of ink to choose from. I have been printing cards for my ham

friends for some time now and I have been encouraged by my friends

to branch out and advertise a little.

I can print 1000 cards with black ink for only $50.00. Why should you order your cards from me? Because $50.00 is it! No shipping charges, no setup charges, no hidden costs. PLUS...you have your choice of 13 card colors, unlimited artwork, and you can have up to FIVE different layouts per order. Want color ink? For example, do you want a red, white and blue US flag on your cards? That would only be $65.00 per 1000, with 13 card colors to choose from,

up to FIVE different layouts, and unlimited artwork in black or colors.

Your card color choices are white, blue, yellow, pink, green, ivory, peach, gray, and the following eyepopping flourescents: yellow, pink, green, blue, and red. Artwork is too numerous to list all designs here, but just some examples would be an ARRL logo, ARES logo, SKYWARN logo, flags of all 50 states, maps of all 50 states, antennas and radios, flags and maps of US territories and foreign countries and 1000's more...
Custom artwork available at NO ADDITIONAL CHARGE!!! Just tell me what you want!!!

Reply via private email for a FREE sample snail mailed to you today!

To place an order call Mark at (904) 626-2450 or FAX (904)626-7686 or you can mail check or money order to:

McAnally and Associates
6223 Hwy 90
Suite 301
Milton, FL 32570-1708

2101. Re: Etching Teflon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: Gareth Edwards <Gareth@darkblue.demon.co.uk>
Message-ID: <828284596snz@darkblue.demon.co.uk>
Source record: 106333

In article <4jh82b$pr7@nadine.teleport.com>
w7el@teleport.com "Roy Lewallen" writes:

> In article <4jfoqt$at9@news.asu.edu>,
> ballnt@aztec.asu.edu (John Ballentine) wrote:
> >
> >In a previous article, flegler@pilot.msu.edu (Stanley L. Flegler) says:
> >
> >>I'm working on a project where I want to glue some Teflon to a surface
> >>for insulation. I've heard that you need to etch it before glue will
> >>adhere properly. I presume that an acid is needed. Does anyone know
> >>which acid, what concentration, and how long? 73 Stan K8RPA,
> >>flegler@pilot.msu.edu
> >>
> >>
> >Not an acid, a very strong base. In the good old days, it was sodium
> >amide. Made by dissolving sodium metal in liquid ammonia, not something
> >I would want to do and I'm a chemist. These days sodium naphthenate is
> >used. You can buy it under the name Tetraetch. You dip the board in
> >the solution, then you have to rise off the naphthalene residue with
> >acetone and then hot water.
> >
> >It is still not a real pleasant process. It is one reason printed circuit
> >shops don't like to work with Teflon. It is really needed to get a plated
> >through hole to stay in place.
>
> Is an adhesive used to bond Teflon to other surfaces? I was under the
> impression that it was mechanically bonded. If an adhesive is used, what is
> it?
>
> Roy Lewallen, W7EL
>

I work as a microwave engineer and consequently do a lot of work with
PTFE. I have never found anything to satisfactorily bond teflon; the
trick is to do the design right so that the Teflon part is mechanically
retained, as it is quite soft andholds onto barbed metal parts quite
well.

Lobbing my tuppence into the pile,

Gareth
GM7WFT

--
I don't want the world; I just want your half. - TMBG

```
-------------------------------------------------------------------
| Gareth Edwards | Gareth@darkblue.demon.co.uk |
| Edinburgh, | Home of Edinburgh Beige Cricket Club |
| Scotland | PGP public key available on request |
-------------------------------------------------------------------
```

2102. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4jls3c$dld@news.calweb.com>
Source record: 106334

nangwa@aol.com (Nan Gwa) wrote:
>In article <4jlao4$9ff@harbour.awod.com>, Wayne Glover <wglover@awod.com>
>writes:
>
>>Subject: Re: Transmitting tubes!
>>From: Wayne Glover <wglover@awod.com>
>>Date: 31 Mar 1996 07:03:31 GMT
>>
>>>>
>>>>I think Yaesu used the 6146 tube. Is this a good choice?
>>>>
>>
>>Actually the Yaesu FT101B through the FT101E used a pair of 6JS6C sweep
>>tubes driven by a 12BY7A.
>>
>>Not the best transmitter tubes in the world, but the story I heard was
>>that in the '50s-'70s rf tubes like the 6146s were not available to the
>>Japanese,(embargos or whatever) so they used whatever they had.
>>
>>73s
>>
>>Wayne, KI$XR
>>
>>
>Aside from problems the
>Japanese may have had, why would anyone have wanted to make a sweep
>tube amplifier anyway?
>
>Tom Donaly KA6RUH
>
Sweep tubes can handle larg PEAK currents. Ideal for low duty cycle
equipment. They were cheep also.

Bill K7NOM

2103. Re: antennae for SS communications

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <4jmrrv$ga6@news.inc.net>
Source record: 106335

hbaker@netcom.com (Henry Baker) wrote:
>In article <4jhfbo$oa5@news.inc.net>, Will Flor <willf@rrgroup.com> wrote:
>
>> Lanier.r.a@nort.bwi.wec.com (Robert A. Lanier) wrote:
>> >I am looking for information on antennae for spread-spectrum
>> >communications. Can I use a regular Yagi or dipole or do I need a
>> >special configuration (hybrid?) ?
>>
>> You don't need any special type of antenna; the only thing you
>> have to be careful of, especially with high-gain directional
>> antennas, is that the SWR remains low across the entire band
>> segment your transmisison is being spread around. To link
>> remote sites to a central main site ("star" configuration)
>> I've used regular Yagis at the remote sites and an omnidirectional
> ^^^^^^^^^^^^^^^^^^^^^^^^...
>> multi-bay vertical at the central site, all on 900 MHz using
>> frequency-hopping SS. For shorter ranges patch antennas are
>> pretty common.
>
>Could you tell us more about your setup, including type of equipment,
>power, distances, data rates, etc. ??
>

Sure. The network I've described above used the Percom Wireless Bridge 920, which uses frequency-hopping SS on the 900 MHz band. There's also a Wireless Bridge 2400 for the 2.4GHz band. The tranmit power of these units is low; under a half-watt; possibly much less than that. They spec at 2Mbit/sec but in our tests we seemed to be able to transfer files at about one-third to one-half the speed of a 10-Base-T Ethernet LAN. The ranges involved were relatively small; about three miles or so was the longest link path.

73 de Will KB9JTT

2104. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4jms97$423@newsbf02.news.aol.com>
Source record: 106336

In article <4jmdbu$rtf@newsbf02.news.aol.com>, nangwa@aol.com (Nan Gwa) writes:

>My venerable old 1973 ARRL Handbook, in a section entitled "A Sweep
>Tube Linear Amplifier", states, "Because only low-duty-cycle transmission
>is suitable for sweep tubes operated at high power levels, this amplifier
>cannot be used for a-m, fm, or RTTY service." Aside from problems the
>Japanese may have had, why would anyone have wanted to make a sweep
>tube amplifier anyway?
>
>Tom Donaly KA6RUH
>
>

Hi Tom,

Sweep tubes used to be cheap tubes. 6146's cost around $8 each wholesale, and sweep tubes were on a buck or two. Cost is always an issue that drive component selection.

The Japanese also used sweep tubes because they make great effort to avoid out of country suppliers. They have great fraternalism and unity in supporting their own workers and countrymen.

6146's also will not work in grounded grid RF amplifier applications. Sweep tubes were the ONLY cheap tube suitable for grounded grid RF applications.

Sweep tubes now cost more than transmitting tubes, so the cost advantages have disappeared. A 572B now costs less than a 6JE6.

73 Tom

2105. Looking for doppler schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: ajass@rama.informatik.rwth-aachen.de
Message-ID: <4jmejr$cm6@news.rwth-aachen.de>
Source record: 106337

I'm looking for schematics to build a doppler
unit for 144-146MHz. Was there something in
the QEX?

Any hints are appreciated. Thank you very much
in advance.

Bye,
Andreas

2106. April edition, Ham Radio Online is now available

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4jn4p0$phg@news.accessone.com>
Source record: 106338
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

The April edition of Ham Radio Online magazine is now available at
http://www.accessone.com/~vbook
or
http://www.accessone.com/~vbook/hronline.htm

This month features original stories on packet radio path quality, spread spectrum
communications, more information on making your own solar observations, getting started in shortwave listening and an amazing list of hidden or not so hidden renditions of Morse code in popular music. We will be adding more stories over the coming weeks - this is a dynamic magazine with upates appearing as often as daily.

As usual, Ham Radio Online also features Amateur radio newsletters from around the world, real-time ionospheric propagation reports, real-time aurora conditions,
real-time MUF calculations, real-time earthquake and severe weather reports and so much more.

Stop and by and enjoy. We are free - and free of ads too - your stories are always
welcome at Ham Radio Online.

Thanks and 73,
Ed and Kim Mitchell,
KF7VY and N7VPL

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

2107. New Bugging and Surveillance Intelligence

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: jmatk@tscm.com
Message-ID: <jmatk-3103962151380001@jmatk.tiac.net>
Source record: 106339
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew,alt.radio.scanner

Update on Microwave Bugging Devices - 3/28/96

0.902 - 0.928 ghz - Popular Commercial FH/DS Devices
1.710 - 1.755 ghz - DEA Audio/Video Bugs (over 1400 bugs purchased in 1995)
1.710 - 1.755 ghz - DOJ Audio/Video Bugs (.25 to .50 watts)
1.710 - 1.850 ghz - Treasury Video Surveillance Systems
2.400 - 2.484 ghz - Popular Commercial FH/DS Devices
4.635 - 4.660 ghz - Treasury Video Surveillance Systems

Most recently purchased gvt microwave surveillance gear seems to be running between 900mhz to 5ghz, with a few systems operating on the 7/8 ghz bands.

Also, keep in mind that the pros love to use ultra low power devices which use the power lines as the transmission medium/antenna (9khz to 300 mhz). Devices typically operate below 10mw, often below 1mw. The devices typically use Wide FM and use voice inversion encryption... VERY easy to demodulate.

Note: According to a recently obtained DOJ surveillance training manual:

�The typical range for the 28 ghz devices is six miles, the typical range of the 2.4 ghz is thirty miles, and the typical range for the 1.7ghz is 44 miles.�

�... frequency modulated applications should operate below 3 ghz to take advantage of the favorable frequency propagation characteristics of that part of the spectrum.�

�...Frequency Hopping and Direct Sequence Devices spead spectrum devices should operate above 1.5 ghz, this will prevent the emissions from being detected by electronic countermeasures.�

-jma

ps: check out our web site, we just got "Carlos" online on our counter terrorism page. URL: http://www.tscm.com/carlos.html

==========
James M. Atkinson "...Shaken, not Stirred..."
TSCM.COM
127 Eastern Avenue #291
Gloucester, MA 01931-8008
URL: http://www.tscm.com/ E-Mail: jmatk@tscm.com
==========
The First, The Largest, The Most Popular, and the Most

Complete TSCM Counterintelligence Site on the Internet
==========

2108. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDp58C3.8Gv@netcom.com>
Source record: 106340

In article <4jmdbu$rtf@newsbf02.news.aol.com> nangwa@aol.com (Nan Gwa) writes:
>In article <4jlao4$9ff@harbour.awod.com>, Wayne Glover <wglover@awod.com>
>writes:
>My venerable old 1973 ARRL Handbook, in a section entitled "A Sweep
>Tube Linear Amplifier", states, "Because only low-duty-cycle transmission
>is suitable for sweep tubes operated at high power levels, this amplifier
>cannot be used for a-m, fm, or RTTY service." Aside from problems the
>Japanese may have had, why would anyone have wanted to make a sweep
>tube amplifier anyway?

In the 1960s and 70s the sweep tubes were probably cheapest in terms of
$ per watt of plate dissipation, save maybe for surplus 807/1625 types.

According to my RCA tube book the 6LQ6 series specifically states that
it could do 200 watts plate dissipation for some short maximum duration,
15 seconds as I recall. No other sweep tube was specified in this particular
way, nor the 6146. Sweep tubes are usually specified for "pulse" operation.
SSB (particularly uncompressed) has a low duty cycle (not as low as pulse,
but lower than CW/AM/etc.) I don't think the 6146 series ever was spec'd for
pulse operation.

Also most of the larger sweep tubes are rated for about 1KV maximum DC plate
voltage (the 6146B max DC plate voltage is 750). The higher max plate voltage
would make it a bit easier to design a pi-network output section as total
plate impedance would be higher for the sweep tubes for the same power level,
say in a 1kw input type amplifier, and you still wouldn't need to have very
much spacing in the plate tuning capacitor because you're not dealing with
really high voltages like in a 572 or 3-500Z amp.

Nowadays it would be nuts because the sweep tubes are mostly out of production
and remaining stock is expen$ive, particularly if you're going to design
a new amplifier for commercial production.

73 Dave WB0GAZ dgf@netcom.com

2109. Re: How to make rubber stamps ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDp6xrt.HMJ@netcom.com>
Source record: 106341

in <1996Mar31.173231.20424@wisipc.weizmann.ac.il>, Ariel Ben-Porath wrote:
: Can anyone tell me how to make my own rubber stamps from my
: design of text and graphics ? I am wondering if there are any
: special purpose supplies for that, something along the lines
: of a printed circuit do-it-yourself kit ?

I think they use a ultraviolet light cured photoelastomer. So it's
really quite similar to making printed circuit boards. I think
Don Lancaster in one of his many magzine columns had some references
to this. (A real effort to dig up, maybe you need to get a trial
account on Genie, where he hangs out.)

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2110. Re: 6 or 7 port reflectometer for getting s parameters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4jko9n$ed6@hpscit.sc.hp.com>
Source record: 106425
Cross-posted to: rec.radio.amateur.homebrew,sci.physics.electromag

In article <4jafck$gdr@eagle.natinst.com>,
Mike Klopfer <klopfer@natinst.com> wrote:
>I've been looking at some articles on 6/7 port reflectometers. I'm wondering
>if anyone has used such a device to get s parameters of a device. I'm
>looking for an inexpensive alternative to a network analyser. Several of
>the articles have mentioned using the method of "sliding terminations" to
>calibrate these. Does this method involve the use of another calibrated
>device to calibrate the reflectometer? Are there inexpensive devices that
>have a variable calibrated impedance in the 1-10GHz range? One article on
>calibration of these reflectometers had a diagram with one block for a
>variable phase shifter and on block for a variable attenuator. Does anyone
>have a suggestion for specific devices that could be used for these
>functions. Thanks for the help.
>
>mike
>

Six port network analyzers tend to be fairly narrow band (since they involve
quadrature couplers) and calibration intensive. Their main advantage is the
possibility of extreme accuracy since no phase measurements are necessary
(everything is done with power meters). You probably don't want to try to
use this technique for a poor man's network analyzer.

Several alternative suggestions:

1. You can buy an HP 8410 network analyzer for about a kilobuck +/-. That's
pretty cheap. (I sit across the aisle from one of it's designers).

2. A spectrum analyzer with tracking generator will do scalar 2 port measurements.
You can save money by building your own tracking generator. Spectrum analyzers
are also available used for a kilobuck +/-.

3. You can get 1 port vector measurements with an HP 4815 vector impedance
meter. They also go for a kilobuck +/- used.

Rick Karlquist, N6RK
HP Santa Clara Division
rkarlqu@scd.hp.com

2111. Can anybody help me on a articel in '73 magazine' march 1991.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: Geert.Pirens@ping.be
Message-ID: <4jkjqg$2sg@ping1.ping.be>
Source record: 106426

Hello,

Can somebody help me on this article in '73 magazine' in march 1991.

March 1991, '73 Magazine' has an article by John Hoots on page 12
with a description of modifications that can be made to some scanners
to improve the I.F. bandwidth.

I live in europe and i'm not able to catch up some articles or buy
one!!

I hope there is someone who will help me on this.

Can someone make a few copy of this article and send it to:

Geert Pirens, ONL2057
Flekeleerstraat 54
B-3600 GENK
BELGIUM

Greatfule thanks!!!!

73!

Geert Pirens, ONL2057

2112. Re: Parabolic Dish (18")?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-3003962334120001@amber1.ultranet.com>
Source record: 106427

In article <hbaker-2903961925210001@10.0.2.15>, hbaker@netcom.com (Henry Baker) wrote:

> In article <9602298281.AA828122178@mail.creo.bc.ca>, lhalliday@creo.bc.CA wrote:

> I would imagine that an umbrella would work, so long as you stayed within
> a million miles or so of it to make sure that it opens... :-)
>

I recently saw the Cassini spacecraft under construction at JPL. NASA learned its umbrella lesson with Gallieo: the Cassini antenna doesn't fold up.

Cheers,

Jon

2113. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-03-31 00:00:00 UTC
From: nangwa@aol.com
Message-ID: <4jmdbu$rtf@newsbf02.news.aol.com>
Source record: 106428

In article <4jlao4$9ff@harbour.awod.com>, Wayne Glover <wglover@awod.com>
writes:

>Subject: Re: Transmitting tubes!
>From: Wayne Glover <wglover@awod.com>
>Date: 31 Mar 1996 07:03:31 GMT
>
>>>
>>>I think Yaesu used the 6146 tube. Is this a good choice?
>>>
>
>Actually the Yaesu FT101B through the FT101E used a pair of 6JS6C sweep
>tubes driven by a 12BY7A.
>
>Not the best transmitter tubes in the world, but the story I heard was
>that in the '50s-'70s rf tubes like the 6146s were not available to the
>Japanese,(embargos or whatever) so they used whatever they had.
>
>73s
>
>Wayne, KI$XR
>
>

My venerable old 1973 ARRL Handbook, in a section entitled "A Sweep
Tube Linear Amplifier", states, "Because only low-duty-cycle transmission
is suitable for sweep tubes operated at high power levels, this amplifier
cannot be used for a-m, fm, or RTTY service." Aside from problems the
Japanese may have had, why would anyone have wanted to make a sweep
tube amplifier anyway?

Tom Donaly KA6RUH

2114. In theory only.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: timelord@one.net
Message-ID: <4jn9n3$auo@news.one.net>
Source record: 106342

Although this may not be the right news group, it seemed to be the likeliest place for this post.
For those of you who may have in days gone by used a test oscilator as a transmitter, or learned how a local transmitter could over-ride an amplifier in a juke box, here's a good "what if" type of question.
Does anybody know of something that will broadcast only 10-20 feet yet over ride an amplifier with a squeel of chirp or something.?
I ask this on part of a couple who can't stand drive by's with loud car stereos.
Personnally I don't notice if they're loud or not. (is that good or bad?)
Like I said in the beginning, this is strickly in theory only for reason of debate and information.

TRL

2115. Re: Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: peake@dstos3.dsto.gov.au
Message-ID: <peake.163.006330BA@dstos3.dsto.gov.au>
Source record: 106343

>That said, I step on the slippery slope and state that the generally accepted
>definition of noise figure is noise factor expressed in dB, e.g. a noise
>factor of 2 is a noise figure of 3.01 dB. This is in opposition to Alan's
>usage.
No, I accept that definition. Most formulae for sensitivity just use noise figure but I recently came across the form I gave. This is in "Reference Data for Radio Engineers" in Section 29-8. It uses the following formula.

dBm at input = -198.6 +10*logB + 10*log(Te)
where Te is the effective noise temperature of the receiving system and is given by
Te = Ta + (LF - 1) * To
where Ta = antenna temp., L= line loss factor, F= noise factor and To is ambient temp.
Replace the antenna and line with an ideal signal generator (Ta=0, L=1) and 10*log(Te) becomes 10*log((F-1) * To) or 10*log(F-1) + 10*log(To).
For To=290, dBm at input is now -174 + 10*logB + 10*log(F-1)
It doesn't matter for large noise figures i.e. where noise factor>>1 but consider a noise figure of 0dB (noise factor = 1) This is a noiseless amplifier and thus should have an infinitely small sensitivity which this formula gives. 10*log(1-1) is very small!
So why doesn't the -174 + 10*logB + noise figure give infinite sensitivity for a perfect amplifier (noise figure = 0)?

>letting B = 1 and using the log form, 10*log(kT) = -204 dBw = -174 dBm. Note
>that Alan used -174 for dBw, which is also incorrect.
Oops! you're correct.

2116. 6m hb transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: murrayt@werple.net.au
Message-ID: <4jngrn$29v@werple.net.au>
Source record: 106344

can someone point me in the right direction. i am trying to locate the
series of articles in "cheesebits" in approx 1990 describing the
construction of a 50 mhz transverter. the articles were authored by
wb3jyo but that is about all i know. can anyone tell me where i can
obtain copies of these articles?
please reply to my email address: murrayt@werple.mira.net.au
thanks
murray treyvaud
vk3amq, melbourne, australia

2117. Re: How to make rubber stamps ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-3103962241470001@amber1.ultranet.com>
Source record: 106345

Ariel,

Go to an art supply shop and take a look at block printing supplies. You carve your design in to the surface of a block with a rubber-like material on the surface, roll on the ink, and print. You could also use photo etching techniques similar to those used in making printed circuit boards to tranfer your design into the surface of a metal block, and print with that. I've made holiday cards with the block printing technique, and had fun doing it.

Cheers,

Jon

2118. Re: How to make rubber stamps ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jnn8l$asu@crash.microserve.net>
Source record: 106346

Post / CC by Mail

arielbp@marganit.weizmann.ac.il (Ariel Ben-Porath) wrote:

>Can anyone tell me how to make my own rubber stamps from my
>design of text and graphics ? I am wondering if there are any
>special purpose supplies for that, something along the lines
>of a printed circuit do-it-yourself kit ?
>
>Yes, I know I can send it to one of a zillion places and have
>it done for a few bucks, but I'd like to make it myself anyway...

You might also consider silkscreening, especially if you're doing this for the self-satisfaction of printing the cards yourself. It's easy to make a silkscreen frame from wood (I did that when I was 18 with practically no tools), or you can buy various sizes at an art supply.

After you have a frame, the pattern you've designed is transfered onto a sheet of film sold at the art supply for this purpose. Next, the film is affixed to the silk (which is stretched taught in the frame) by wetting it slightly with acetone. The film isn't affected by the inks and it will last practically forever (just remember to clean the exposed silk well after each run). When I did this, I cut the pattern out of the film by hand, but I think the film is also available in a photo-resist version. If you have a CAD program, transferring the pattern should be a snap. Also, if you can print "separations", you can lay down as many colors as you want. After the film is attached to the silk, the cards are printed one at a time by placing the blank stock under the silk and using a type of squeegee to push the ink through the pattern.

Even if you don't want to print the entire card yourself, silkscreening has the advantage that it won't look like a rubber stamp. The ink is thicker and it stands out much better, in addition to being available in thousands of colors. You can also buy ink formulated specifically for glossy stock.

The initial cost for all this is probably slightly less than having cards done at a printshop, at least if you build the frame. Once you have the supplies, you can make as many cards as you want and even change the pattern at very little additional cost. Incidentally, if you didn't know, silkscreening is how many (most?) companies paint the numbers, letters and other markings on the front panels of electronics equipment.

Have fun!

73,
Jack WB3U

2119. WTB: 0 - 140 to 170 pf Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: keymastr@i1.net
Message-ID: <4jnmou$kj1@news1.i1.net>
Source record: 106347

Dear Fellow Swappers,

My antique radio club is trying to homebrew a regenerative receiver project and we are having trouble finding 0 - 140 pf variable capacitors. We need approximately 20 of them. The capacitance is not critical and we can use anything up to 0 - 175pf. Does any body have any of these available? If not, can you recommend a parts house that has these?

73,

Derek Cohn
WB0TUA

2120. Re: Eimac tube info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: bmurray@whidbey.net
Message-ID: <4jnp4h$dtu@whidbey.whidbey.com>
Source record: 106348

In article <4j7thd$oqm@freenet.hut.fi>, poo-boy@mail.freenet.hut.fi says...
>
>
>Does anyone have the specs on an Eimac 7609?

The 7609 is identical to a 4X150A with the exception of a 26.5v, 0.51a filament. It was listed in their "Quick Reference Catalog 175" but not in QRC 181, except as a replacement. By this time, it's probably been discontinued, but was made at the San Carlos, CA plant

Bob, KA7HLB :{)

2121. Re: 6m hb transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4jo85f$guf@newsbf02.news.aol.com>
Source record: 106349

A state-of-the-art 6 meter transverter design was described by Zack Lau in QEX, Sept., 1995, publ. by ARRL.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2122. Re: 6m hb transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4joh3n$i39@newsbf02.news.aol.com>
Source record: 106350

A state-of -the-art 6 meter transceiver design was described by Zack Lau in QEX, Sept., 1995, publ. by ARRL.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2123. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.828348102@bauv111>
Source record: 106351

k2ek@aol.com (K2EK) writes:

>EVERYONE used a pair of 6146Bs with a 12BY7 driver... well, almost
>everyone.

But the 6CL6 is a more robust driver than the 12BY7.
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

2124. Re: In theory only.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jp3p2$f4p@crash.microserve.net>
Source record: 106352

Post / CC by Mail

timelord@one.net (Timothy R. Linde) wrote:

>Does anybody know of something that will broadcast only 10-20 feet
>yet over ride an amplifier with a squeel of chirp or something.?
>I ask this on part of a couple who can't stand drive by's with loud
>car stereos.

You could probably build a jammer for the entire FM band, but that won't do much to a cassette deck or CD player.

I once had a friend who got so frustrated with people zooming through his neighborhood, making it unsafe for kids to play, that one day he threw a rock through a car's side window.

The driver got out of the car swearing like crazy and started towards the guy, who promptly walked into his garage and reemerged with a 12 gauge. End of argument.

Maybe your neighborhood should consider installing gates to control traffic flow?

73,
Jack WB3U

2125. How to setup an dual computerlink via radio. Is it possible ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: Franky.Noten@ping.be
Message-ID: <4jp38s$jb3@ping1.ping.be>
Source record: 106353
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

I would like to setup an link between 2 computers.
What's the maximum speed I can transmit on ?
Please give some solutions.

Thanks.

2126. Re: Looking for doppler schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4jp44c$h5h@hpcvsnz.cv.hp.com>
Source record: 106354

Andreas Junklewitz (ajass@rama.informatik.rwth-aachen.de) wrote:
: I'm looking for schematics to build a doppler
: unit for 144-146MHz. Was there something in
: the QEX?

: Any hints are appreciated. Thank you very much
: in advance.

May, 1978, QST magazine had an article on the "DoppleScAnt" scanning Doppler antenna/DF system. Mine, that I built in 1978, still works fine. Some of the IC's are starting to get scarce, but substitutions are fairly easy, I think.

--

Cheers,
Tom
tomb@lsid.hp.com

2127. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: Tom Skelton <Tom.Skelton@ColumbiaSC.ATTGIS.COM>
Message-ID: <Dp72qH.CC7@ncrcae.ColumbiaSC.ATTGIS.COM>
Source record: 106355

>==========William W Janssen, 3/31/96==========
>
>nangwa@aol.com (Nan Gwa) wrote:
>>In article <4jlao4$9ff@harbour.awod.com>, Wayne Glover
><wglover@awod.com>
>>writes:
>>
>>>Subject: Re: Transmitting tubes!
>>>From: Wayne Glover <wglover@awod.com>
>>>Date: 31 Mar 1996 07:03:31 GMT
>>>
>>>>
>>>>I think Yaesu used the 6146 tube. Is this a good choice?
>>>>
>>>
>>>Actually the Yaesu FT101B through the FT101E used a pair of
6JS6C sweep
>>>tubes driven by a 12BY7A.
>>>
>>>Not the best transmitter tubes in the world, but the story I
heard was
>>>that in the '50s-'70s rf tubes like the 6146s were not
>available to the
>>>Japanese,(embargos or whatever) so they used whatever they had.
>>>
>>>73s
>>>
>>>Wayne, KI$XR
>>>
>>>
>>Aside from problems the
>>Japanese may have had, why would anyone have wanted to make a sweep
>>tube amplifier anyway?
>>
>>Tom Donaly KA6RUH
>>
>Sweep tubes can handle larg PEAK currents. Ideal for low duty cycle
>equipment. They were cheep also.
>
>Bill K7NOM
>

It wasn't just the Japanese. I can't count the number of times
we replaced

the sweep tube finals in a Drake T4XB at the Clemson U club station. I think
it also used a pair of 6JS6C's, but I'm probably wrong. When we got a Kenwood
TS530S with 6146B's, even with fairly regular contesting, Dx'ing and general usage,
they kept going and going and going..... Of course, by then the RTTY enthusiasts
had graduated. :-)

73, Tom WB4iUX
Clemson U, '76, '82

Tom.Skelton@ColumbiaSC.ATTGIS.COM
or
WB4iUX@AOL.COM

2128. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: Monty Wilson <mwilson@bangate.compaq.com>
Message-ID: <Dp76qF.G77@twisto.eng.hou.compaq.com>
Source record: 106356

nangwa@aol.com (Nan Gwa) wrote:
>My venerable old 1973 ARRL Handbook, in a section entitled "A Sweep
>Tube Linear Amplifier", states, "Because only low-duty-cycle transmission
>is suitable for sweep tubes operated at high power levels, this amplifier
>cannot be used for a-m, fm, or RTTY service." Aside from problems the
>Japanese may have had, why would anyone have wanted to make a sweep
>tube amplifier anyway?

My dad's Drake TR-3 transceiver uses three sweep tubes in parallel,
and it does use them on AM, but they pulled a trick to keep the
duty cycle down. They suppressed the carrier and screen-grid-
modulated the tubes so your wattmeter looks like you're talking on
sideband, but when the sidebands are present the carrier is also,
making it possible to copy you on an AM receiver. Of course, a
REAL AMer would tell you you don't sound too good...

--
.........Monty.
mwilson@bangate.compaq.com

2129. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <4jpipu$c0f@vista.hevanet.com>
Source record: 106357

I've seen advertised a gizmo that looks like a tool for punching phone patch blocks. you fill it with
eyelet things and ram them into the board. It autofeeds the eyelets and looks like it would be fast.
Check out DigiKey and similar catalogs. Let me know if you find it. I'd like one too.
miker

2130. Re: 6m hb transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4jpjot$acl@morgan.vf.mmc.com>
Source record: 106358

Murray,

E mail your address to me and I will send you a copy of the series that Paul, WB3JYO wrote on the 6 meter transverter.

73, Harry, W3IIT
Editor, Cheesebits

2131. Re: How to make rubber stamps ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: hh357@aol.com
Message-ID: <4jq3mp$7f9@newsbf02.news.aol.com>
Source record: 106359

There is a store in Santa Barbara, CA called Stampa Barbara.
Try them. cheers

2132. Re: GrandFather left 2 Garages full of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: sanddral@aol.com
Message-ID: <4jpvvk$5lc@newsbf02.news.aol.com>
Source record: 106360
Cross-posted to:
rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.shortwave,rec.radio.swap

Todate the 800 phone number is not working, good luck.

2133. FREEMEN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: charri3122@aol.com
Message-ID: <4jq5o3$8bv@newsbf02.news.aol.com>
Source record: 106361

This News Release is for your info -- please pass on to all your links
Click on "http://www.nidlink.com/~bobhard/mom.html" at PROTEST.TXT for
further updates
and latest news as I get it from the Freemen in Lewistown, Montana. It
will be updated
as I receive data, at least once per day.

April 1, 1996 5:00PM PST

---- PROTEST IN MONTANA ----

We the people have assembled in Lewistown, Montana to show support
for the Free men here and across the nation.

If you love freedom and liberty come and join us in this effort.

We invite God loving, freedom loving people of all races and
religious beliefs to stand with us for the Constitutional principles
of freedom and justice for all.

Let the courts decide who is right or wrong. Let justice be done by
a FULLY INFORMED JURY OF THEIR PEERS.

The Federal government and it's agents should not be involved in
preemptively deciding who is right or wrong. THAT IS THE RIGHT AND
THE RESPONSIBILITY RESERVED TO THE JURY BY THE CONSTITUTION.

Come and join us. We are in the Kiwanis Park on the west side of
Lewistown. There are several motels, or camp with us. We will be
here until this is resolved. Our numbers are not great at present as
this protest was organized on short notice but more are coming.
People will continue to come and go, but we do need to make a very
positive statement of support for "CONSTITUTIONAL DUE PROCESS OF LAW"
AND OUR CONCERN FOR THE PROTECTION OF THE INALIENABLE, INHERENT RIGHTS
OF ALL INDIVIDUALS INVOLVED.

We are preparing to stay for the duration of the situation.

PUT A WHITE RIBBON ON YOUR ANTENNA. Bring your BIBLE !!!!

!!!--- LEAVE YOUR WEAPONS AT HOME--!!!

!!!--- LET THE JUST POWER OF GOD PREVAIL ---!!!

!!!--- LET US JOIN HANDS, WE CAN DO TOGETHER WHAT WE CANNOT DO ALONE
--!!!

We, the "Freemen of the Northwest", basing our lives and our actions on
God's Law, the Constitution of the United States and the original State

constitutions will not tolerate another Ruby Ridge or Waco and we again urge you to join us. Come stand with us for Freedom and Justice.

PLEASE-- DO NOT SHOW UP IN JORDAN, MONTANA, where the standoff is occurring.

If you are unable to join us in the protest rally in Lewistown, Montana, PLEASE SHOW YOUR CONCERN and INTEREST by calling, faxing, e-mailing or by

US mail to the following agency and offices.

UNITED WE STAND, DIVIDED WE FALL

THE FREEMEN OF THE NORTHWEST
Ed LaStage
Chad Erickson (208) 935-2376
Pat Johnson (208) 935-2397
Michael Cain

Agency and Offices to contact if you cannot attend the rally.

Federal Bureau of Investigation
Billings, Montana
Mike Dillon
Jim Cleaver
Ron Van Vranken
(406) 248-8487
(406) 248-9911 FAX

Attorney General

Joe Mezurek
State Capitol Building
Helena, Montana
(406) 444-2026
(406) 444-0582 FAX

Governor Mark Racicot
State Capitol Building
Helena, Montana
(406) 444-4151
(406) 444-5529 FAX

J.Nevis@mt.gov

rambo

2134. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: parf@aol.com
Message-ID: <4jqc3a$bae@newsbf02.news.aol.com>
Source record: 106362

Hi Ken,

Don't have an address right off but typically plated thru holes are 'simulated' w/ small rivets. The Motorola handbook for RF Devices makes mention of these- Perhaps the ARRL handbook or the microwave compendiums may mention them.

73, Dale WA2YPY

2135. Controlled Carrier AM (was Re: Transmitting tubes!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDp7A4C.G0K@netcom.com>
Source record: 106363

In article <Dp76qF.G77@twisto.eng.hou.compaq.com> Monty Wilson
<mwilson@bangate.compaq.com> writes:
>nangwa@aol.com (Nan Gwa) wrote:
>>My venerable old 1973 ARRL Handbook, in a section entitled "A Sweep

>My dad's Drake TR-3 transceiver uses three sweep tubes in parallel,
>and it does use them on AM, but they pulled a trick to keep the
>duty cycle down. They suppressed the carrier and screen-grid-
>modulated the tubes so your wattmeter looks like you're talking on
>sideband, but when the sidebands are present the carrier is also,
>making it possible to copy you on an AM receiver. Of course, a
>REAL AMer would tell you you don't sound too good...

Drake calls this "controlled carrier AM". I think what's really happening
is that the carrier level into the finals tracks the modulation envelope,
so when the signal is only lightly modulated (i.e., less power into the
sidebands), the carrier level is reduced accordingly, so that the carrier-
to-peak-modulation-power level is held more in line. It definately gives
you lower average plate dissipation (unless you're also using audio
compression) and it is still audiable on a regular AM receiver (altho the
RF-derived "S" meter on an old style AM receiver will now move at a syllabic
rate, rather than hold steady). It's kind of an interesting scheme and the
only drawback I can see is that the receiving end might perceive a lower
signal/noise ratio during periods of low modulation.

No other HF transceiver (even modern solid state ones) seem to work this way.

73 Dave WB0GAZ dgf@netcom.com

2136. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-01 00:00:00 UTC
From: randy@pulsar2.rdrc.rpi.edu
Message-ID: <4joqsj$pmu@usenet.rpi.edu>
Source record: 106364

Bill, K7NOM said sweep tubes were 'cheep', I beg to differ:

Sweep tubes were cheAp,
while birds, birdies go cheEp.

Minor points to be sure, but the speeling on the
net culd be bedder.

_-_randy_-_

2137. FS: Components - Cleaning Shack

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: "Charles H. Reichert" <qa2696@email.mot.com>
Message-ID: <31619FCD.33590565@email.mot.com>
Source record: 106279
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

SHACK SALE: GREAT for HOMEBREWERS
Locals call for time to look over the goodies.

MAKE OFFER BY PACKAGE/LOT!

Shipping by UPS Ground.

Description of Packages;

1] Siliconix 28VDC Power FETs -> 175Mhz
These devices have never been used.
Still in packaging.

Qty - 4 40W DV2840S
3 20W DV2820S
6 5W DV2805S
2 5W DV2805W
With Spec Sheets

Will let this whole package go for 50 cents a watt

or $120 + $5 UPS

2] Misc Bipolar, FET, DMOS devices
SOLD!

3] Chip Capacitors
Qty - 2 50pf 7.5KV Xmit DoorKnob
4 10pf 350V High Current RF Mica Chip
4 68pf 350V High Current RF Mica Chip
~ 100 1uf 35V SM
> 100 .01uf (Some 25V, 100V)
~ 75 .1 uf 50V
8 4.7pf 50V
10 33pf
12 36pf 50V
7 43pf 50V
5 47pf 50V
17 51pf 50V
10 150pf 50V
10 160pf 50V

4] Electrolytics
Qty - 9 1.0uf 100V PC Mount
7 2.2uf 100V PC Mount
9 3.3uf 50V PC Mount

7 4.7uf 50V PC Mount
13 4.7uf 20V Tantalum
9 6.8uf 20V Tantalum
16 10uf 25V PC Mount
18 20uf 25V PC Mount
1 22uf 50V PC Mount
3 22uf 15V Tantalum
9 33uf 25V PC Mount
12 47uf 16V Tantalums
7 47uf 25V PC Mount
10 68uf 25V PC Mount
8 100uf 16V PC Mount
2 220uf 25V Axial
4 330uf 25V PC Mount
6 470uf 25V PC Mount

5] Capacitors - < 1uf
Qty -
5 2200pf 100V CK (Mil)
2 2700pf 100V CK (Mil)
2 3900pf 100V CK (Mil)
15 .0047uf 1000V Disc
> 30 .01uf 100V CK (Mil)
2 .022uf 100V CK (Mil)
12 .1uf 100V CK (Mil)
9 .22uf 100V PC Mount
24 .47uf 16V Tantalums
> 100 FeedThru, StandOff Caps
(most 470 - 1000pf, some 100pf)

6] Voltage Regulators
Qty - > 100 Zener Diodes 2.7 -> 22V, PDiss (250mW, 400mW, 1W)
> 100 Voltage Regulators 5,8,12V, PDiss TO-220, TO-3

7] Diodes, Rectifiers
Qty 5 MDA101A Bridge Rectifier
2 MDA980-1 Bridge Rectifier
9 1N5823 20V 5A Hot Carrier
18 HSMS-2804L30 2 Schottky Diodes - Cath connected
2 1N4962
6 1N5408
4 1N5416
21 1N5061
10 HEP170

8] Xtal TTL Osc 4 pin Cans
7 50Mhz
20 64Mhz

9] Variable Capacitors, Trimmers
SOLD!

10] Pin Diodes, VariCaps, MW Detection
SOLD!

11] Resistors Carbon, Metal Film, Wirewound
Qty Too many to list but appr'x 1000.
These are 1/4W carbon & film, with some 1/8, 1/2, 1, 2 Watts.
Also a number of 5,10W Power Resistors.

12] RF Chokes - Leaded
Qty ~200 RF Chokes - Mini Encapsulated, Standard, some PI.

13] RF Components
Qty - 9 MAV-11 MCL Monolithic RF Amps - Unopened
1 LRMS-1H MCL Mixer - Surface Mount
5 DS-113 Anzac 3dB Hybrid Splitter PC Mount - Unused
1 DS-109 Anzac 3dB Hybrid Splitter PC Mount - Unused
2 M4T Termination Insensitive Mixers PC Mount - Unused
4 AM-147 Anzac RF Amps TO-5 Case PC Mount - Unused
5 A70-3 WJ RF Amps TO-5 Case PC Mount - Unused
2 TM-7201 Amplifonix RF Amps TO-5 Case PC Mount - Unused
2 TM-9202 Amplifonix RF Amps TO-5 Case PC Mount - Unused

14] Coaxial, PC Attenuators, Termination
SOLD!

15] Miniature Toggle, Rocker, Micro Switches
SOLD!

16] BNC Connectors, Adapters
SOLD!

17] 1/2" Heliax Connectors
Qty 10 - Andrew L44W 1/2" Heliax N Male Connectors - Used
but in excellent shape. Used Indoors.

18] N Connectors, Adapters
SOLD!

19] HF Connectors
SOLD!

20] SMA Connectors, Adapters
SOLD!

21] PC Trimmer Resisters, Mini Multi-Turn
SOLD!

22] LEDs, 7 Segment Display, Red, Grn, Ylw
12V Filament Miniature Lamps, Panel Mount
SOLD!

23] Ferrite Cores
SOLD!

24] HeatSink Assortment
SOLD!

25] Linear, Analog, RF IC's
Qty 2 555
1 556
1 557
2 LM139J OP-Amp
2 LM324N OP-Amp
6 LM2900 OP-Amp
5 LM3086
6 CA3028A IF/RF IC
1 CA3065
2 CA3080
1 CA3081
1 MC1330
1 MC1350
4 MC1496G Bal Mod/Mixer
1 MC1496L Bal Mod/Mixer
2 MC741CP OP-Amp
12 MC1741CP1 OP-Amp
3 SD5000N FET Switch
2 SI7660CJ
10 SP8794A 60MHZ/8 Counter Plessey
1 TCA440
7 TDA2002 4W Audio IC
1 TL082CP OP-Amp
3 ua733HM
3 ua741HM OP-Amp
2 ua741PC OP-Amp

26] 74LS, 74, CMOS Ic's, Sockets
SOLD!

27] Fans >= 100CFM

3 @ 115VAC Whisper Style
2 @ 24VDC Muffin Style "TORIN" TA450
2 @ 115VAC Howard Industries Miniature Squirrel Cage
Model 3-20-1250 (Excellent for Filament Cooling)

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(O O)
==========.ooO==U==Ooo.==========
| KD9JQ 847-358-3827 Home |
| Charles H. Reichert 847-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 qa2696@email.mot.com |
==========

2138. Radio Telemetry Module?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: mkudra@cris.com
Message-ID: <4jsba1$j60_001@news.cris.com>
Source record: 106280

We are searching for a module or small board to provide real-time telemtry transmissions from high-powered model rockets.

This unit would need to be:

a) Licensed or legitimately usable unlicensed in several countries,
b) Interfaceable to an altimeter/accelerometer CPU,
c) capable of transmissions to a range of 50K feet.

Any leads will be greatly appreciated.

BTW, we are not 'radio-knowledgeable' people, so if there is a more suitable newsgroup to target, please let us know.

Thanks,
Malcolm

2139. Re: Shortwave etc database program....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: Phil Keller <philk@wco.com>
Message-ID: <3161C76E.3DA@wco.com>
Source record: 106281
Cross-posted to: rec.radio.swap,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave,rec.radio.swap

```
And the Cost is ????

-Phil-

Charles Bolland wrote:
>
> Sir,
>
> A stand alone IBM compatible Broadcasting Radio Station Database
> program for Longwave, Mediumwave, or Shortwave. 4000 records...
> Completely read/write and updateable...
>
> If you'd like a copy, send your EMail address and Postal Address
> which will be used to pass you more detailed information on
> the full featured program....
>
> The above program will be sent via EMAIL...
>
> All information will be kept confidential....
>
> Chuck
>
> KA4PRF

--
====================================
"Those who avoid decapitation,
leave more offspring."
-Carl Sagan-
====================================
Phil Keller N6MWC
mailto:philk@wco.com
```

2140. Valve amp/masthead amp design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: Steve Clements <steve.clements@amigabee.posnet.co.uk>
Message-ID: <9604030320061011@amigabee.posnet.co.uk>
Source record: 106282

Hi,

I am after info on stuff. I plan to build a valve amp, some DJ9BV's (wrong
newsgroup sorta) and a mebbe a masthead pre-amp.

All the below is intended for 50, 144, and 432MHz.

I have had a few comments from packet radio, but things raised there are
still not clear to me.

Amp.

I have a transformer stated 1250-0-1250 @ 310mA. I'm told this will be
enough to run 2 x 4CX250's, but the current for one seems to disagree with
that (valve info from packet net)

Will 1250-0-1250 @ 310mA be enough for 2 4CX250's, at about 400W output
?

Or what output could I expect ?

I was hoping to use 250's as they are common. But if you say, "Hey, use
this tube, its cheaper than a pair of 250's, and easier to build around"
then I'm listening :-)

Also I have this idea.It must be duff, coz never heard of it, but here
goes..

Example: twin 4CX250 amp.

You build your HT PSU, and valve enclosure etc to make your 144 amp. It
has a U shaped matching thingy connecting the valves (techy huh ?) and no
doubt a cap and coil or two about the place.

Could the amp no be designed in such a way to swap the freq dependent bits
and use same expensive bits on another band ? I'm talking a few times a
year rather than very often...

I've been told things like "watch the RF switching timing" (also refering
to mast-head) I guess this would be covered in the amp design, but am a
bit concerned about the masthead, as I am not 100% about that.

I'd also be grateful for specific articles that describe fully (fit part a

to part b..) the building of suitable amp/amps. I have checked out the latest ARRL handbook, and it seems to have dropped the "old faithful" type
designs, on the presumption you have past issues I guess. I dont.

A QST, VHF Communication, DUBUS etc issue number (and maybe even source) would be great !

Masthead amp.

We are using an ERA1 gaAsfet at work for an amp on 750 to 2050MHz. This little BUGger does DC to 8GHz, and is flat as anything in that band. He only has 11 dB gain, but his mate ERA3 has 26, and a noise fig of about 4
or 5 methinks. Most importantly, he is CHEAP BIG TIME !! (2) And he works
with nowt but some DC shoved up him.
It occurs to me that he might be slid in between 2 coax relays, and poked
on top of my mast, to make a masthead for 50,144 AND 432 in one box.
I'm not after the worlds most sensitive and silent amp, but something that
is better than an amplifier integral pre-amp type.

Any reason why not that you clued up guys know ??

I planned to use a direct drive to switch the masthead relays over on TX,
coming directly from the mic PTT switch. Could this method be used to over
come this timing biz/RF on swithover time etc thingy ??

Oh, I also have an aging Kenwood TR-7010 crystal controlled SSB rig.
Anyone know what they perform like, and know of a site/sites for mods if they need them ???
I'm mainly after nearby BIG signal rejection, and a bit of sensitivity as
well.(Sensitivity comes second tho ! I need NOT to hear close BIG stations
on the whole 2megs of 2m !! One contest group /P + another contest group
/P @ 10km = good RX - NOT !)

I'm mainly into VHF contesting at the mo, but it occurs to me that the same kit to be a big noise (hence amp and 4xDJ9BV's) would give me a sporting chance on EME. You reckon mast head described, if works, be any good for EME ??

Direct email welcome, I think my address has changed on 1 April, should now be:

Steve.Clements@amigabee.qnet.org.uk

Cheers de Steve !
-
-=-=-=

2141. Ham Radio Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: Lanier.r.a@nort.bwi.wec.com
Message-ID: <4jrcu6$kl6@cc2000.kyoto-su.ac.jp>
Source record: 106283
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

I am trying to get a copy of the article "Digital HF Radio A Sampling of Techniques" by Rohde. It was published in Ham Radio magazine in April 1985.

Does anyone have a copy of this article or know of a source for it? I would be willing to pay all shipping costs.

73s de
Tony, KE4ATO
lanier.r.a@nort.bwi.wec.com

2142. NE602 parts in stock at Arrow Elect.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: tomz@premier1.net
Message-ID: <Dp7nC5.1py@data-io.com>
Source record: 106365

I was having trouble finding the NE602AD and had read a number of posts
by outhers also unable to find this part. I found out today that Arrow
Electronics @ 1-800-833-3557 has about a 150 of them in stock as of this
afternoon and wanted to pass this info. on to anyone else looking for
them. All other sources I had tried were backordered.
73,
KC7PMQ

2143. Identity of the mystery coax and the invention of Gore-Tex!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-0104962208430001@amber1.ultranet.com>
Source record: 106366
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

I posted a discription of some unusual coax a couple of weeks ago, hoping that someone out there might be able to identify it. I just discovered what it is, and thought some of those who responded might be interested. Here the description I posted originally:

> >I have some high quality double-shielded Teflon dielectric coax for which
> >I would like to get some precision N connectors. The coax is unmarked
> >however, and the connector suppliers I've contacted tell me they need a UG
> >number or other identifier inorder to provide the correct connector. Can
> >anyone help identify this cable? The outer sheath is a very slick plastic
> >(HMW polyethelene?), lavender in color, about 0.275" diameter. The
> >silver-plated braided shield beneath is about 0.190 diameter, and is
> >separated from the spiral wound flat inner shield (O.D. 0.150") by a thin
> >layer of wrapped teflon. The stranded central conductor, inside more
> >wrapped teflon, is silver-plated, 0.056" O.D. (15 guage), and contains 19
> >28 or 29 gauge strands.

It turns out that this is a proprietary cable made by W. L. Gore: the lavender outer sheath is their trademark. The insulation is not merely teflon as I thought, it is actually Gore-Tex. Yes folks, these are the guys who invented Gore-Tex, and it was developed as a dielectric for microwave coax. The water proof, breathable fabric for clothing was an unexpected alternate use. At the time Gore-Tex was developed, cables were their only product. Their catalog claims two major advantages of Gore-Tex over teflon: Gore_Tex is 70% air and thus has a dielectric constant of 1.4 compared to 2.1 for teflon. This allows use of a center conductor with about twice the surface area/unit length as compared with a teflon cable of the same diameter. This decreases insertion loss. Second, Gore-Tex has a loss tangent 10-fold less that of teflon. (I don't know precisely what a loss tangent is, but I'm sure bigger isn't better.) The spiral wound wrapped shield is the actual electrical shield, while the braded shield is primarily mechanical. The spirals of the inner shield are overlapped slightly, and the overlapped portions slide over each other as the cable bends to maintain good shielding (leakage less than -90 dB).

Now that I've found all this out, I still haven't solved my original problem: how to add N-connectors to this stuff. Gore doesn't sell either the cable or connectors: they only sell assembled cables. I got the two ends I want to add the connectors to by cutting one of these. Since I can't find standard connectors that fit this stuff, I'm going to try a little machining to modify some. I don't expect to get the VSWR of 1.25 typical for these cables @ 18 GHz, but if I can do as well as that at 2 GHz, I'll be reasonably satisfied.

Cheers,

Jon

2144. Wanted Siliconix SD5000 for experimenting

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: Roger L Traylor <Roger_L_Traylor@ccm.jf.intel.com>
Message-ID: <4jqgkh$odd@news.jf.intel.com>
Source record: 106367

Does anyone know of a source willing to sell SD5000's in small (2-3)
quantity? I want to try one in a high level mixer.

Thanks,

Roger Traylor WB4TPW

2145. 6m hb transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: murrayt@werple.net.au
Message-ID: <4jqvkh$jvs@werple.net.au>
Source record: 106368

i previously posted a request for info on the cheesebit 6m transverter.
harry brown w3iit replied with a mail address hbrown@ew0203.resd
unfortunately that address does not work for me.
harry please send me a mail with your address to
murrayt@werple.mira.net.au
thanks
murray

2146. Re: Looking for doppler schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: Eric Jones <ericwj@norfolk.infi.net>
Message-ID: <316116BB.5E04@norfolk.infi.net>
Source record: 106369

Andreas Junklewitz wrote:
>
> I'm looking for schematics to build a doppler
> unit for 144-146MHz. Was there something in
> the QEX?
>
> Any hints are appreciated. Thank you very much
> in advance.
>
> Bye,
> Andreas
> There is a book I just got from Tab books called Radio Direction finding and (something else, cant quite remember) made easy. Call Tab books and you can get it for about 20 bucks. I know they have it becouse I just got it about 2 weeks ago and had to special order it myself. It's a very good book and has scematics on all kinds of stuff related to RDF. I myself just finished a Dopplar unit I use in my car and have vary good results with it. It is a Dick Smith clone but not the original.

73 and happy hunting :) Eric KE4KIKAndreas Junklewitz wrote:
>

2147. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4jr872$2ju@mentor.telis.org>
Source record: 106370

There is a company,International Rivet,here in Calif. who sell applicable rivets. 73 Kenb

2148. Alinco DX-70 -- better i-f filtering?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4jr8tm$ris@mksrv1.dseg.ti.com>
Source record: 106371

Does anyone have any ideas on improving the i-f selectivity of the Alinco DX-70? I remember reading a while back that someone was looking into this, maybe Joe BV/N0IAT? I tried to work some of the WPX contest this past weekend while I was out motoring around over the weekend, and it was really a lost cause. I'm willing to sacrifice the warranty to get better selectivity. Any ideas? Please e-mail me.

73 de KC5NG.

2149. Flavorig!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: ashapiro00@aol.com
Message-ID: <4jrf7e$j36@newsbf02.news.aol.com>
Source record: 106372

Has anyone built the Flavorig! from a Nov. 89 73 Amateur Radio magazine article? It is an 80M CW transceiver based on a Radio Shack Flavoradio. Any details would be appreciated.

2150. G2DAF linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: Lennart Nilsson <ln@hagagymnasiet.norrkoping.se>
Message-ID: <4jrlme$skq@simba.lejonet.se>
Source record: 106373

I'm building a HF-PA with three 813's in grounded grid but I
would like to try the G2DAF grid-driven design instead. Has
anybody compared efficiency and linearity between those circuits?
- SM5DFF

2151. WTB: Ten-Tec Argonaut, any species, <= $250

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: wayne@interval.com
Message-ID: <wayne-0204961122270001@burdick.interval.com>
Source record: 106374
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

It must be in excellent working order, and rediculously low prices would be appreciated. (I have a couple of friends who know these rigs inside out who will give me advice on whether the price is right--or better.) Please include a microphone and power supply if the total price will still be <= $250.

I'm trying to help out a retired (fixed-income) ham in San Francisco who really needs a rig. Thanks in advance for parting with your little-used gem!

73,
Wayne
N6KR

415-494-3806

2152. Morse Code Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: DEAP71A@prodigy.com
Message-ID: <4jruat$1pj6@usenetp1.news.prodigy.com>
Source record: 106375

Can anyone tell me where I might buy a Morse Code Decoder? I'm willing to pay between $100 & $500 for a decder. Also, A kit would be o.k. if it comes with ready made PC Boards. Bill buck

2153. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4jrv98$c12@hpcvsnz.cv.hp.com>
Source record: 106376

Dino Darling (dinod@deltanet.com) wrote:
: What is a good RF tube capable of 100 watts output ...?

I'm surprised nobody (until now) has mentioned the 811A as a possibility in this power range. It's capable of a bit more power than this, but it should run 100 watts out pretty comfortably.

--
Cheers,
Tom
tomb@lsid.hp.com

2154. AMD Ham Club

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: brian@dvorak.amd.com
Message-ID: <Dp93Ks.HEC@txnews.amd.com>
Source record: 106377
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.space,rec.radio.amateur.packet

(I sure hope I got this constrained to AMD only!)

If you're a ham and you work at AMD, please read this!

We're starting an amateur radio club at AMD Austin. If you're in Austin, send me (or Curtis.Doss) e-mail for more info. We're just getting organized to ask AMD for space and support, so your interest is important.

If you're not in Austin, we'd like to know about any non-Austin AMD ham clubs (or hams, for that matter).

Brian McMinn, N5PSS
brian.mcminn@amd.com

2155. QEX Delivery Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-02 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4jrrm2$is6@nntp.Stanford.EDU>
Source record: 106378

Its April 2 and I received my January issue of QEX in the mail
today. The QEX circulation department does not seem to want to
answer their Email so I am wondering if other subscribers are
still having these late delivery problems.

I remember a thread on this a few months ago and someone saying
these problems were being taken care of and should be fixed soon.
What happened?

Steve Muther
WF6R
stevem@w6yx.stanford.edu

2156. RF transistor, low noise

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: ag381@FreeNet.Carleton.CA
Message-ID: <4jshpj$aks@freenet-news.carleton.ca>
Source record: 106284

I am looking for a replacement for a Texas Instruments TIXM101 transistor
which is used as the 1st rf amp in my 144MHz gear.The noise performanse is
not good and with a more modern replacement I hope to do (much?) better.
Suggestions?
Herb.

2157. Re: Controlled Carrier AM (was Re: Transmitting tubes!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: HATP34A@prodigy.com
Message-ID: <4jssbb$pvi@usenetw1.news.prodigy.com>
Source record: 106285

David : I was under the impression that controlled carrier AM was being used in other early rigs , ie: Heathkit DX-35,40,and 60 and Knight T-60, 150
Hallicrafters HT-40. Check em out.

2158. Re: Identity of the mystery coax and the invention of Gore-Tex!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jt064$6ng@crash.microserve.net>
Source record: 106286

acj@ultranet.com (Jon Goguen) wrote:

>I don't expect to get the VSWR of 1.25 typical for these cables @ 18
>GHz, but if I can do as well as that at 2 GHz, I'll be reasonably
>satisfied.

Were you able to come up with any figures for the cable regarding loss
VS frequency?

2159. Re: How to setup an dual computerlink via radio. Is it possible ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4jt8cm$34ii@info4.rus.uni-stuttgart.de>
Source record: 106287
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Franky Noten <Franky.Noten@ping.be> wrote:

>I would like to setup an link between 2 computers.
>What's the maximum speed I can transmit on ?

The speed of light.

>Thanks.

You are welcome.

2160. FS: misc. 2meter equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: William Leonard <WRLEONARD@cc.memphis.edu>
Message-ID: <3162396E.975@cc.memphis.edu>
Source record: 106288

I am wanting to sell the following equipment:
HTX-202 2m transceiver 6watt out!.....make an offer

MFJ SWR/power/field strenght meter.....make an offer

Ramsey PA-10 2m power amp.: 6watt in-> 45 watts out!....make an offer

E-mail replies or questions to: wrleonard@cc.memphis.edu

thanks...

2161. Re: NEED R-390A Meters! Can Anyone Help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4jttsu$dpc@service2.uky.edu>
Source record: 106289

In article <4jmh1t$1s5@mtinsc01-mgt.ops.worldnet.att.net>, George Sereikas
<SEREIKAS@worldnet.att.net> says:
>
>Thanks for reading this message. I am looking for the meters for
>my Collins R-390A receiver. One is the "Carrier Level" meter and
>the other is the "Line Level Meter". If anyone has either of
>these meters (or one of them) or knows where I can find them, I
>would appreciate your getting back to me. Thanks much!
>George
>KC2MF
>sereikas@worldnet.att.net
>
>
Starting about 15 years ago the us federal gov required that they,
the meters be removed before being released for sale. The meters have
radium on the needle and meter face and are quite "hot"(radioactive).
While I suspect that the level is less than a 1950 watch or clock face,
we must be protected. I had a R392, kind of the mobile version of the
R390, and was amazed that the meter would "peg" my old civil defense
gieger counter. Have you tried Fair Radio Sales in Lima Oh?(I would
have given the address/phone number but my catalog has "vanished")
I traded away my R392 and have recently regretted it. Bu. we can't hang
on to everything. Of course our cat sure liked the R392 much more than
the Kenwood R2000 that replace it. The R392 got nice and hot. And the
cat like to sleep on top of it.
Good luck.

2162. need schematic for HW-99

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: jstroppe@uhl.uiowa.edu
Message-ID: <4ju06c$m7c@flood.weeg.uiowa.edu>
Source record: 106290

Can any one out there help? Thanks John WA0VYZ

--
John Stroppel | Internet: jstroppe@uhl.uiowa.edu
The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
Iowa City, IA 52242 | Fax: (319) 335-4555

2163. Re: Identity of the mystery coax and the invention of Gore-Tex!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: acj@ultranet.com
Message-ID: <acj-0304960855110001@amber1.ultranet.com>
Source record: 106291

In article <4jt064$6ng@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) wrote:

> >I don't expect to get the VSWR of 1.25 typical for these cables @ 18
> >GHz, but if I can do as well as that at 2 GHz, I'll be reasonably
> >satisfied.
>
> Were you able to come up with any figures for the cable regarding loss
> VS frequency?

Got the figures from the Gore catalog.

Cheers,

Jon

2164. Re: G2DAF linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <DpALD7.BL8@hpqmoea.sqf.hp.com>
Source record: 106292

Lennart Nilsson (ln@hagagymnasiet.norrkoping.se) wrote:
: I'm building a HF-PA with three 813's in grounded grid but I
: would like to try the G2DAF grid-driven design instead. Has
: anybody compared efficiency and linearity between those circuits?
: - SM5DFF

The novelty of the G2DAF design was in using the incoming RF to power the screen grid supply. The grounded cathode configuration gives somewhat more gain than grounded grid, but the screen supply keeps the drive power requirement up. It is difficult to find seniconductor diodes that are fast enough to work well in this circuit at the necessary voltage ratings. The original used thermionic rectifier valves.

With a 100Watt exciter, I'd suggest the grounded grid for its good linearity and freedom from neutralising/decoupling difficulties. Grounded grid passes exciter power to the load and so might just be noticably more efficient...

Cheers
David GM4ZNX

2165. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4ju7od$pe1@hg.oro.net>
Source record: 106293

Ed Hare <ehare@arrl.org> shared the following priceless pearls of
wisdom:

>Ken Burtchaell <kburt@telis.org> wrote:

>>I am looking for a method to simulate plated thru holes in thin(.010
>>duroid).This is for small quanity work,one of a kind boards for amateur
>>microwave projects.

There is an outfit in Santa Barbara CA (and it has only been thirty
years since I bought my last batch of 10,000 from them, so their name
escapes me for the moment -- "Electronic Rivets", "Electronic
Eyelets", or something like that) that make little teeny tiny soft
hollow copper rivets that come in all lengths from 0.010 to 0.250.
They are VERY thin (0.002 or 0.005) so you simply insert them into a
hole drilled .005 or .010 oversize and then splay them with an icepick
or something like that. If it is a component hole, you solder the
component into one side and it will suck up and solder the other side.
If it is a via, you solder them directly.

I really hope somebody will come on and tell you the name of the
outfit. I've used my supply for YEARS now.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic

2166. Re: FREEMEN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4jt429$om7@dfw-ixnews2.ix.netcom.com>
Source record: 106294

In <4jq5o3$8bv@newsbf02.news.aol.com> charri3122@aol.com (CHarri3122) writes:
>
> ---- PROTEST IN MONTANA ----
>
> We the people have assembled in Lewistown, Montana to show support
> for the Free men here and across the nation.
--snip--

Oh God I hope this thread doesn't last long.

Tim, ka8ddz

2167. [Q] Help! Building RF Dector For 18mhz - 22mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: ggherb@ccmail.monsanto.com
Message-ID: <NEWTNews.828551875.18409.Postmaster@GGHERB.MONSANTO.COM>
Source record: 106295

I am looking to build a receiver for detecting RF from Jupiter.
The range must cover 18Mhz - 22Mhz. I'd like to be able to tune in
500Khz increments. The output will be directed to a 12-bit A/D for
sampling. Any information, books to refer to, or existing schematics
would greatly be appreciated. Keep in mind that I do not have an
extensive RF design background.

Gary

2168. Re: G2DAF linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4jue4t$l76@newsbf02.news.aol.com>
Source record: 106296

In article <DpALD7.BL8@hpqmoea.sqf.hp.com>, dstock@hpqmdla.sqf.hp.com (David Stockton) writes:

> The novelty of the G2DAF design was in using the incoming RF to power >the screen grid supply. The grounded cathode configuration gives somewhat >more gain than grounded grid, but the screen supply keeps the drive power >requirement up. It is difficult to find seniconductor diodes that are >fast enough to work well in this circuit at the necessary voltage >ratings. The original used thermionic rectifier valves.

And not only that, the circuit is horribly non-linear! It is probably the single most IMD prone circuit in history.

The scrren voltage fluctiates wildly with drive, the screen grid loads the input RF envelope at a non-linear rate with power, and so on. It ranks right up there with class C amplifiers for SSB purity!

> With a 100Watt exciter, I'd suggest the grounded grid for its good >linearity and freedom from neutralising/decoupling difficulties. Grounded >grid passes exciter power to the load and so might just be noticably more >efficient...

I'll vote for that! There is no merit in using grid driven circuits unless you need the gain. Grid driven circuits are more complex (expensive) and harder to stabilize. They are also more critical for voltage regulation, and harder to tune!

Use grounded grid! Does the 813 have the beam forming plates brought out on a seperate connection? If so, it'll work. If the beam forming plates are tied to the heater it won't work in grounded grid.

73 Tom

2169. ICOM interface commands

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: lion@tigger.jvnc.net
Message-ID: <DpAryA.MwF@tigger.jvnc.net>
Source record: 106297

Hello:
Name here is Kelly. I am currently builind an RS-232 interface for my ICOM 736 radio. I will use this to control my rig from my computer instead of the CI-V converter box ICOM sells. I got the plans from compuserve, and the total cost (not counting the stuff from my junk drawer) was about $5.00. All parts except the power supply are available from Radio Shack.

Anyway, I would like more information on the command structure used by ICOM. I have a brief document from compuserve, but I am sure it does not contain ALL of the interface commands. If nothing else, I guess I'll have to by the book from ICOM for $15. I fully understand the commands I have information on, but would like to know if there are any addional commands.

Thanks in advance,
73 de Kelly
KB2SYD
(kdl@lion.com)

2170. Re: QEX Delivery Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4juihn$n1e@newsbf02.news.aol.com>
Source record: 106298

I'm just guessing, but I don't think it's so much a delivery,
as a publication, problem. Our copies are probably mailed
out immediately upon publication. It reminds me of some iron
curtain math journals some years ago. They would publish only
as material, press time, and paper became available. LIke in
this morning's mail I would get an issue with a "publication date"
of "July 1994".

Let's be patient. Circulation might just handle things like billing.
You'll probably get a friendly reply if you write or call Lori Weinberg.

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2171. Newbie needs help with a local set

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: Jaded <72260.3026@CompuServe.COM>
Message-ID: <4juloe$r9b$3@mhafn.production.compuserve.com>
Source record: 106299
Cross-posted to:
aus.radio.amateur.digital,aus.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,alt.radio.pirate

I want to set up a local station with a 1000 meter radius. I know I'll need a liscience, 'cause I don't feel like having the FCC coming in the magic vans. I have a few friends who will help with the cost, but I want to keep it under $100.

Thanks!
Jade El'Muerte

--

Jaded

2172. A newbie needs help settingup local

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: Jaded <72260.3026@CompuServe.COM>
Message-ID: <4jul7o$r9b$2@mhafn.production.compuserve.com>
Source record: 106300
Cross-posted to: aus.radio.amateur.misc,rec.music.makers.guitar.tablature,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,alt.radio.pirate

I am interested in setting up a local radio channel with a 1000m
radius. I want to do this cheaply, But I do have several
investors, so the total can at most be $100.

Thanks in advance!
Jade El'Muerte

--

Jaded

2173. Re: Identity of the mystery coax and the invention of Gore-Tex!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: bwilson@newshost
Message-ID: <4junao$8cd@viking.mpr.ca>
Source record: 106301
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

Jon Goguen (acj@ultranet.com) wrote:

: It turns out that this is a proprietary cable made by W. L. Gore: the
: lavender outer sheath is their trademark. The insulation is not merely
: teflon as I thought, it is actually Gore-Tex. Yes folks, these are the
: guys who invented Gore-Tex, and it was developed as a dielectric for
: microwave coax. The water proof, breathable fabric for clothing was an
: unexpected alternate use. At the time Gore-Tex was developed, cables were
: their only product. Their catalog claims two major advantages of Gore-Tex
: over teflon: Gore_Tex is 70% air and thus has a dielectric constant of 1.4
: compared to 2.1 for teflon. This allows use of a center conductor with
: about twice the surface area/unit length as compared with a teflon cable
: of the same diameter. This decreases insertion loss. Second, Gore-Tex
: has a loss tangent 10-fold less that of teflon. (I don't know precisely
: what a loss tangent is, but I'm sure bigger isn't better.) The spiral
: wound wrapped shield is the actual electrical shield, while the braded
: shield is primarily mechanical. The spirals of the inner shield are
: overlapped slightly, and the overlapped portions slide over each other as
: the cable bends to maintain good shielding (leakage less than -90 dB).

The insulation IS merely teflon, in the strictest sense of the word!
Goretex is just expanded polytetrefluoroethylene (or teflon for short).
All that is in the cables insulation is teflon and air; nothing else.
The reason why the dielectric constant is lower, and the loss tangent is
higher, is that the insulator is mostly air. We use the cables you refer
to here extensively (with good results), but they ain't exactly cheap!
I have also worked extensively with Goretex sheet (1mm thick), used as a
semipermiable membrane in a hydrostatic pressure sensor, The stuff is
really fascinating to work with.

Bob.

2174. WTB:Electrolytic 40-40-20 mfd, 250vdcw

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: Norm Hammar <norm@cqg.com>
Message-ID: <3162C137.2650@cqg.com>
Source record: 106302

Please email norm@cqg.com

2175. Need Data for VPO-300L

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: pelt@vt.edu
Message-ID: <pelt-0304961538220001@pelt.ams.vt.edu>
Source record: 106303

Help! Can someone who has an old FET data book give me the charcteristics
for a VPO-300L FET. This is an old device which I need a substitute for.

Any help would be greatly appreciated.

Tnx...73

--
Ranson J. Pelt

pelt@vt.edu
QST de nz4i

2176. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: timr@gorge.NET
Message-ID: <3162E7D7.41D4@gorge.net>
Source record: 106304

```
add ham-homebrew
```

2177. Re: How to setup an dual computerlink via radio. Is it possible ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: Mark Schoonover <schoon@cts.com>
Message-ID: <3162F270.7ED4@cts.com>
Source record: 106305
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

moritz@ipers1.e-technik.uni-stuttgart.de wrote:
>
> Franky Noten <Franky.Noten@ping.be> wrote:
>
> >I would like to setup an link between 2 computers.
> >What's the maximum speed I can transmit on ?
>
> The speed of light.

^^^^^^^^^^^^^^^^^^^^

Well, That's not entirely true. Electrons move slower through copper
wire than throught the void of space.
>
> >Thanks.
>
> You are welcome.

--
~~~~~~
Mark Schoonover -- KA6WKE E-Mail: schoon@cts.com
San Diego, CA
Kenwood R-1000, BC2500XLT, PK232MBX/JVFAX, 66' Indoor Dipole
~~~~~~

2178. Handheld batteries help, please

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: perryrt@flinthill.com
Message-ID: <4jurq7$kg4@news.flinthills.com>
Source record: 106306
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Does anyone remember the name and adress of the place that does the really good (and cheap) reconditioned/used handheld batteries? I can't seem to find it around here...

Thanks!

Regards,

R. T. Perry
perryrt@flinthills.com
KF4BAL
GMOO

- The world is divided up into two groups of people: Those that use HP's, and those that yell "HEY! Where's the equals sign!"

2179. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: douglas <ddouglas@netnet.net>
Message-ID: <4jv0hm$k5v@laslo.netnet.net>
Source record: 106307

i'm very new to this amateur radio thing. tell me what i would need to
reach a 10 mile radius. including amps, antenna, etc.

2180. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: dsa@netcom.com
Message-ID: <dsaDpB16E.GKp@netcom.com>
Source record: 106308

In article <4jmdbu$rtf@newsbf02.news.aol.com>, Nan Gwa <nangwa@aol.com> wrote:
>My venerable old 1973 ARRL Handbook, in a section entitled "A Sweep
>Tube Linear Amplifier", states, "Because only low-duty-cycle transmission
>is suitable for sweep tubes operated at high power levels, this amplifier
>cannot be used for a-m, fm, or RTTY service." Aside from problems the
>Japanese may have had, why would anyone have wanted to make a sweep
>tube amplifier anyway?
>
>Tom Donaly KA6RUH

Because TV sweep tubes have humongous cathode emission levels -- ie, even tho the plate dissapation might be only 25 watts in ICAS, the tube's cathode might well be able to supply enough current to allow for peak power levels of well over 100W per tube.

As a result, if you were producing a final which was going to be used in a [relatively] compact unit, you could get your power density waaaay up there, compared to how much space it would have taken you if you were using "real" tubes for the job.

Look at the Swan line of transceivers -- they used sweep tubes and were very popular for mobile SSB work in the late 70's and early 80's.

So what if the key-down power level was only 15% of what the SSB rating was? Were you really going to use it for CW? RTTY? How many people used to work RTTY when you were using 026's and model 19's? FM? On HF? Nah. AM was well on its way out the door by the late 70's, so sweep tubes were a pretty nifty idea on how to get SSB equipment down to a tolerable size for mobile work. In that era, SSB was "the thing" in commercial equipment.

Transmitters I've owned (or still own) which use sweep tubes:

- Hammarlund HX-50 (6DQ5) (not exactly a mobile unit)
- Swan 260, 270, 500 (very usable for mobile work, and I used the 260 for mobile work *very* well during college)

So sweep tubes have their uses. You just have to understand that they're while they're cheap, small and high-output, they don't forgive key-down applications.

dsa

2181. Astro 200 Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-03 00:00:00 UTC
From: "Lorelei Lindenaux (SAR)" <lindenau@virtu.sar.usf.edu>
Message-ID: <Pine.SUN.3.91.960403203516.12364A-100000@virtu>
Source record: 106309

Hello:

My dad ahs an Astro 200 Transceiver 80M - 10M with factory installed 500 cycle CW filter. Includes, Mic, AC power supply, DC cables and Spkr. SASE brings Brochure. Will ship US for $475.00. Please e-mail me at lindenau@virtu.sar.usf.edu or you may call my dad at 813-842-4818. (New Port Richey Fla.) My dads name is Maurice W4NHP

Thanks, Lorelei

2182. Re: How to setup an dual computerlink via radio. Is it possible ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4k1asd$gkm@news.onramp.net>
Source record: 106229
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

>Well, That's not entirely true. Electrons move slower through copper
>wire than throught the void of space.
>
>

I think you will be very surprised to know
how VERY slow Electrons move through copper.ie
from one end to the other. and if using AC they NEVER make it. :-)

That DARN power compamy, selling me the SAME electrons month
after month.

73

2183. Re: PCB plated thru holes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4jveud$pj9@mentor.telis.org>
Source record: 106310

Jim The outfit you are trying to remember is International Rivet! Ken

2184. Re: FREEMEN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: Paco@loco.usa
Message-ID: <4jvi47$l05@mercury.hiline.net>
Source record: 106311

timhynde@ix.netcom.com(Tim Hynde ka8ddz qrp/Rochester, MI) wrote:

>In <4jq5o3$8bv@newsbf02.news.aol.com> charri3122@aol.com (CHarri3122)
>writes:
>>
>> ---- PROTEST IN MONTANA ----
>>
>> We the people have assembled in Lewistown, Montana to show support
>> for the Free men here and across the nation.
>--snip--

>Oh God I hope this thread doesn't last long.

>Tim, ka8ddz

Irronic, isn't it? Go free China or some other country (Canada?) that
really needs wackos like you.

Unos huevos rellenos, por favor!

Juan, pth!

2185. Re: Newbie needs help with a local set

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4jvm62$ru0@crash.microserve.net>
Source record: 106312
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Jaded <72260.3026@CompuServe.COM> wrote:

>I want to set up a local station with a 1000 meter radius. I
>know I'll need a liscience, 'cause I don't feel like having the
>FCC coming in the magic vans. I have a few friends who will help
>with the cost, but I want to keep it under $100.

Have you called Harris?

2186. need mod Icom IC-737

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: user@memo.ericsson.se
Message-ID: <4jvvct$373@erinews.ericsson.se>
Source record: 106313

Hi!

I want to use a transverter to go from HF to 70cm and get 432 to 438 MHz in one step. This requires my HF-rig to be able to operate in TX from 24 MHz to 30 MHz continousely. Is there anybody who knows how this can be done? I've seen many mods for ICOM-rig's but none for the 737. HELP!!

/ SM7PAF -- Tommy

2187. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4k02eg$2bo@crash.microserve.net>
Source record: 106314

tomb@lsid.hp.com (Tom Bruhns) wrote:

>I'm surprised nobody (until now) has mentioned the 811A as a
>possibility in this power range. It's capable of a bit more
>power than this, but it should run 100 watts out pretty
>comfortably.

Good idea! I guess the temporary absence of the 811A from the market still tends to displace it as a choice for transmitters. I don't usually think about using it as a grid-driven final, although there's no reason not to.

At 100 watts out, an 811A would last almost forever. It's also cheaper than a pair of 6146B's.

73,
Jack WB3U

2188. Re: Alinco DX-70 -- better i-f filtering?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4k0i10$1pmi@info4.rus.uni-stuttgart.de>
Source record: 106315

>I tried
>to work some of the WPX contest this past weekend while I
>was out motoring around over the weekend, and it was really
>a lost cause.

Are you sure it is the IF selectivity and not input overloading?
The best advice is to sell it while it is still under garantee
and get a decent radio.

73, Moritz DL5UH

2189. WTB: #12 fuse lamp for Drake TR-4 transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: Norm Hammar <norm@cqg.com>
Message-ID: <3163C5B5.1A7F@cqg.com>
Source record: 106316

Please email bob@cqg.com or norm@cqg.com

2190. Re:QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9603048286.AA828635969@mails.imed.com>
Source record: 106317

Someone asked again about QEX. I got my January issue earlier this week, too. It reminded me that I didn't know when my subscription expires.

I e-mailed to circulation and got a *very* prompt reply from Kathy C. She said that, yes, they are still a little behind on getting the magazine out.

The way I figure it, they are 3 months behind and they have been since about October. HOWEVER, I have been receiving a new issue about once a month since November or December (I forget). This means they need to cut about a week off the turn around time to start to get caught up.

Again, my guess is that this is basically Jon, the editor, and one or 2 other people putting together QEX for us. It doesn't take much, like the editor being *really* sick or some such to really mess wtih the schedule.

For my part, Jon and his group do a fine job of putting out a quality magazine. The biggest problem for me is the withdrawal from not getting QEX. I intend to be patient and not bother them too much while they continue to dig themselves out of this hole.

Ray Mack
WD5IFS
mack@mails.imed.com

2191. Re: Morse Code Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: ccashion@spd.dsccc.com
Message-ID: <4k0qjd$7lj@sun001.spd.dsccc.com>
Source record: 106318

William Buck (DEAP71A@prodigy.com) wrote (wb>)

wb> Can anyone tell me where I might buy a Morse Code Decoder?
wb> I'm willing to pay between $100 & $500 for a decder. Also,
wb> A kit would be o.k. if it comes with ready made PC Boards.
wb> Bill Buck

The 1996 issue of the ARRL Handbook contains one you can assemble
yourself. It is on page 24 of section 22. It is the designe of
Ralph Taggart, WB8DQT. A PCB is available from Far Circuits.
The software is on the floppy which comes with the handbook.
Charles Cashion
AC5GT
--

2192. 70 cm Transverter recommendations needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: P06288@email.mot.com
Message-ID: <1996Apr4.151830.969@schbbs.mot.com>
Source record: 106319

I have a Yaesu FTV-107 dual transverter box which contains only the 2 M module. I would like to add the 70 cm band module but have been unable to find anyone willing to part with theirs. As a result I am considering building my own module using commercial modules, PCBs, or whatever that already exist and substitute my own module in place of the YASEU module.

Can anyone give me some recommendations on modules, PCB's etc that use the standard 28 mhz as the local osc and switchable IF?

You can email me at gerwitz@getnet.com.

Thanks

Jim

2193. Re: Valve amp/masthead amp design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4k1298$42q2@info4.rus.uni-stuttgart.de>
Source record: 106320

>I was hoping to use 250's as they are common. But if you say, "Hey, use
>this tube, its cheaper than a pair of 250's, and easier to build around"
>then I'm listening :-)

There is a guy here Karl Wiener, who designs amplifiers around some russian
tubes and he says that they are sturdy and cheap.

>I'd also be grateful for specific articles that describe fully (fit part
>a to part b..) the building of suitable amp/amps.

Get the VHF-DX book by Ian G3SEK, it will tell you a lot about assembling
a good station. Also DUBUS publishes technical notes (Rainer DJ9BV).

>It occurs to me that he might be slid in between 2 coax relays, and poked
>on top of my mast, to make a masthead for 50,144 AND 432 in one box.

Such a thing would completely overload from broadcast and TV.

>You reckon mast head described, if works, be any
>good for EME ??

You would soon learn to appreciate a state-of-the art no-compromize
preamp.

There are a few mailing lists related to VHF and EME, where knowledgeble
people ca be found.

73, Moritz DL5UH

2194. Re: QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr4.175820.9713@ke4zv.atl.ga.us>
Source record: 106321

In article <9603048286.AA828635969@mails.imed.com> mack@mails.imed.COM writes:
>
>For my part, Jon and his group do a fine job of putting out a quality
>magazine. The biggest problem for me is the withdrawal from not
>getting QEX. I intend to be patient and not bother them too much
>while they continue to dig themselves out of this hole.

Yeah, you bet. And they seem to be taking some of our gripes to
heart too. The latest issue has *source code* listings. Wheeee!
I've gotta have one of those dual synthesizers!

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2195. Air core coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199604042006.PAA27196@service1.cc.uky.edu>
Source record: 106322

Where do you get large air core coils now days?

Say 3 or 3.5 inches in dia and 8 or 10 TPI.

73
Bill ko4ww

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

2196. Re: Looking for doppler schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: ecgallup@mlode.com
Message-ID: <4k1dh0$2og@news.wco.com>
Source record: 106323

In article <316116BB.5E04@norfolk.infi.net>,
Eric Jones <ericwj@norfolk.infi.net> wrote:
>Andreas Junklewitz wrote:
>>
>> I'm looking for schematics to build a doppler
>> unit for 144-146MHz. Was there something in
>> the QEX?

> There is a book I just got from Tab books called Radio Direction
>finding and (something else, cant quite remember) made easy. Call Tab
>books and you can get it for about 20 bucks.

The book you want is: TRANSMITTER HUNTING (Radio Direction Finding
Simplified), by Joseph D. Moell, K0OV and Thomas N. Curlee, WB6UZZ.
Published by TAB.

Ed WB6SAT ecgallup@mlode.com

2197. Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: Monty Wilson <mwilson@bangate.compaq.com>
Message-ID: <DpCtAy.3vp@twisto.eng.hou.compaq.com>
Source record: 106324

AMers:

Call me unamerican, but I like my no-tune transistor rig. Right now I'm running a Yaesu FT747 which even has a fair AM receiver in it.

Unfortunately the AM transmitter is low-level modulated of course.

I know a lot of "real AMers" have built plate-modulated transmitters. I know because I've heard the wonderful signals from your stations. I only run AM on 10m; it's my favorite band for just about everything including spreading out above 29 MHz and having fun talking to all you guys that have built your own equipment with nuvistors in the front end, etc. As soon as the spots come back, we'll talk again on 10 meters.

What I want to know is: has anyone managed to take a late-model solid state transceiver (like mine) and modify it to run collector- modulated AM? Other than finding or winding a modulation transformer, it would seem relatively simple to modify a solid-state rig like this, and you could run a 40W carrier, which on 10m would be plenty.

Has anyone tried this?

I figure I have a few years to work on this one, until the sunspots come back from the dead.

--
.....Monty.
mwilson@bangate.compaq.com

2198. Re: Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4k1g6e$31g@crash.microserve.net>
Source record: 106325

Post / CC by Mail

Monty Wilson <mwilson@bangate.compaq.com> wrote:

>What I want to know is: has anyone managed to take a late-
>model solid state transceiver (like mine) and modify it to
>run collector- modulated AM? Other than finding or winding
>a modulation transformer, it would seem relatively simple
>to modify a solid-state rig like this, and you could run
>a 40W carrier, which on 10m would be plenty.

Check the price of replacement finals before you try this. The peak
Vcc that results from collector modulation may exceed their ratings.

73,
Jack WB3U

2199. freeman

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: bondsg@ohsu.edu
Message-ID: <bondsg.34.31644A38@ohsu.edu>
Source record: 106326

What a bunch of loser's

2200. NorCal QRP Cascade

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: paul_butterfield@wb.xerox.com
Message-ID: <NEWTNews.828639161.6494.Pbutterf@butter-pc.ess.mc.xerox.com>
Source record: 106327

Home brew crew,
I would like to build the NorCal QRP club's nifty 75m/20m SSB rig. Problem is I can't get to the NorCal web page right now and I need to get purchase details on my birthday wish list right away. (XYL shopping plans imminent!)
Anyone know how much it is and where to get it? Please respond ASAP.
Thx all!
73 de KB2TCG
Paul_Butterfield@wb.xerox.com

2201. 6m XCVR project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-04 00:00:00 UTC
From: emeb@indirect.com
Message-ID: <emeb-0404962043490001@s169.phxslip4.indirect.com>
Source record: 106328

Hello,

I've recently become interested in 6m operation, and have started a small project to build a 6m FM Transceiver. I'm basing the whole thing on a bunch of Motorola parts which were originally intended for cordless phones.

I started with the reciever, based on an MC3362 Dual Conversion FM reciever. It looks pretty good on paper, and overall it works pretty well. I use an MC145162 PLL chip to lock the first LO, and the 10.245 2nd LO as the input to the reference divider.

As it stands right now, the thing has a sensitivity of about -100 dBm. This is about 20 dB off of what it should be able to do, and I think I know why: Looking at the 1st LO on a spectrum analyzer, it is REALLY messy. I have tried all the common solutions to phase noise in PLLs - wider loop bandwidth, regulation of the Phase Detector and VCO supplies, boosting the VCO output levels into the feedback divider, but no improvments yet.

So, anyone have any ideas on other things to do to clean up that LO?

Advice appreciated.

--
Eric Brombaugh KC7GXA
emeb@indirect.com (private)
ericb@sicom.com (work)

2202. How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Mike Colley <103650.1720@CompuServe.COM>
Message-ID: <4k2b93$m1a$1@mhafn.production.compuserve.com>
Source record: 106230

Sorry if this is a repeating question, if it is, then flame me by e-mail, I'm new here.

I want to find a way to use a PC printer to print directly on printed circuit board raw stock for the purpose of making quantity 1 or two boards. Is there a printer not expensive (read <$600) that can do that? I don't want to mess with several photo steps if I can eliminate that.

Maybe a straight paper path printer would work if raw stock was thin enough. I have found two printers with almost straight paper paths, one is a HP ink jet, the other is a Citizen portable thermal wax transfer. But I'm not limited to these, I haven't bought yet. I have found .007 double sided 1 oz. stock.

I have tried the laser printing to paper then use a hot iron to transfer ink to PCB from DIGIKEY. Much of the ink fell off of the PCB and the heat from the iron oxidated the copper.

Can I print directly on to a sheet of copper then glue it to PCB and then etch that? What glue withstands soldering heat?

Thanks - All responses appreciated - All the best
Mike Colley
I can also be emailed at uudell.us.dell.com!sneezy!mike

2203. Need help w/ VHF/UHF amp & 4CX250 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Glenn KD4ULB <Gunner@pinn.net>
Message-ID: <4k2bqq$ntu@everest.pinn.net>
Source record: 106231

I recently aquired a pair of 4CX250 tubes with sockets and other odds and ends. I'm trying to gather as much info as possible to construct an amp for VHF/UHF work. Multimode possible? Dual band possible? 500+ watts possible? Minimum driver pwr required? Any plans, articles, schematics, hints, tips, etc. available? Any help at all will be greatly appreciated. KD4ULB
Gunner@pinn.net

2204. CANADA'S NEWEST KENWOOD DEALER

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: collings@cyberspc.mb.ca
Message-ID: <4k2m6r$9vf@mars.cyberspc.mb.ca>
Source record: 106232

Canada's newest Authorized Kenwood Amateur Radio dealer is Comtelco Electronics, located in
Winnipeg, Manitoba.

Contact them via e-mail at : Comtelco@cyberspc.mb.ca for special pricing on selected Kenwood
Amateur radio products.
They are also an authorized dealer for MFJ amateur radio accessories.

73's
Fred Collings
VE4 TRO

2205. PC instead of keyer - CW TSR keyer shareware info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: pavel.reberc@guest.arnes.si
Message-ID: <4k2f3g$9v@cmir.arnes.si>
Source record: 106233

I wrote a CW-TSR utility for PC-DOS so computer can now play role of
CW keyer. All you need is paddle and simple CW interface (1 diode, 2
resistors, 1 capacitor) connected to your serial port.

This CW TSR utility has been primarely written for s53ww - Robi
who wrote the VHFCTEST program, which is very popular in our region.

Information for HAM-SOFTVARE programmers is also provided if you
want to use it with your software.
You can download the latest version of the VHFCW and VHFCTEST from the
ftp server:

ftp.hamradio.si /pub/ham/contest/vhf
files: CWTSR.TXT, CWTSR.ZIP

for aditional information write to
PR : S57RA @ S50BOX.SVN.EU
email: pavel.reberc@guest.arnes.si

2206. Re: Looking for doppler schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Eric Jones <ericwj@norfolk.infi.net>
Message-ID: <3164E124.22CD@norfolk.infi.net>
Source record: 106234

Andreas Junklewitz wrote:
>
> I'm looking for schematics to build a doppler
> unit for 144-146MHz. Was there something in
> the QEX?
>
> Any hints are appreciated. Thank you very much
> in advance.
>
> Bye,
> Andreas
>

Sorry Andreas for not being very thorough in my last attempt to assist you in locating this book so I will try again.

Transmitter Hunting (Radio direction finding simplified)
Joseph D. Moell, K0OV and Thomas N. Curlee, WB6UZZ
copywrite 1987 by Tab Books division of McGraw Hill
ISBN 0-8306-2701-4 (paperback)

I Hope this helps. 73 Eric KE4KIK Norfolk, VA, USA

2207. Re: FREEMEN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Eric Jones <ericwj@norfolk.infi.net>
Message-ID: <3164E3DA.7E83@norfolk.infi.net>
Source record: 106235

Will they take a check?

(idiots)

2208. Re: ICOM interface commands

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4k2kkq$179@news.onramp.net>
Source record: 106236

There are lots of commands GET the Book
It is worth it.

73

2209. radio telemetry module

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: sw1gak@polaris.mindport.NET
Message-ID: <Pine.SUN.3.91.960405053558.7010B-100000@polaris.mindport.net>
Source record: 106237

I use several PACIFIC CREST RFM96 radio modems to broadcast DGPS
corrections at 9600 baud and at times other types of data.
470 MHZ
2 WATTS
DIGIPEATER MODE
PASS THROUGH
MENU DRIVEN SET UP
SEVERAL BAUD RATES

Not cheap, license is a pain but do-able.
They work very well.
MARTEL ELECTRONICS in NH makes a little board analog to RS232 14 bit
+ sign, 2400 baud out $70, or you can buy just the IC. Uses a MAXIM
110 or 111 serial A/D.
73
spencer trombly W1GAK

2210. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: "KF9CM turtle"@wwa.com
Message-ID: <4k31qh$3u@kirin.wwa.com>
Source record: 106238

> tomb@lsid.hp.com (Tom Bruhns) writes:
> Dino Darling (dinod@deltanet.com) wrote:
> : What is a good RF tube capable of 100 watts output ...?
>
> I'm surprised nobody (until now) has mentioned the 811A as a
> possibility in this power range. It's capable of a bit more
> power than this, but it should run 100 watts out pretty
> comfortably.
>
> --
> Cheers,
> Tom
> tomb@lsid.hp.com
>
>>>>
I concur The 811A is the best bang for the buck ($14 new). Operating
classs B Grounded Grid the output is aprox, 150 watts out with 15 watts
drive.

Good luck Gary KF9CM

2211. Re: Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4k30es$khk@abyss.West.Sun.COM>
Source record: 106239

In article <4k1g6e$31g@crash.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
>Post / CC by Mail
>
> Monty Wilson <mwilson@bangate.compaq.com> wrote:
>
>>What I want to know is: has anyone managed to take a late-
>>model solid state transceiver (like mine) and modify it to
>>run collector- modulated AM? Other than finding or winding
>>a modulation transformer, it would seem relatively simple
>>to modify a solid-state rig like this, and you could run
>>a 40W carrier, which on 10m would be plenty.
>
>Check the price of replacement finals before you try this. The peak
>Vcc that results from collector modulation may exceed their ratings.

If you *really* want to use an FT-747 like this, I'd suggest using the
radio as a low level exciter to feed a class-C amplifier chain with
high level modulation. For the FT-747, you can get a low level output
from the main PCB where the PA coax normally plugs in, and run the
radio in split mode, CW on transmit / AM on receive.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

2212. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4k3433$kiv@mentor.telis.org>
Source record: 106240

Hi Mike: I do a fair amount of onesy twoesy pcb boards.
Most of my boards are very simple because they are one or two stage microwave amps.
Somewhere in the newsgroups presently there is a lengthy article about numerous methods that you should read.
I print my artwork on a Okidata laser printer.If you print to ordinary printer paper you will have difficulty cleaning all the paper off after ironing on without losing some of the trace.The board should be ultra clean before ironing,Pre-etching the board surface seems to help.There are better papers to print on.I have been experimenting with a baking pan liner paper sold by rolls in grocery stores that works very well.You iron your print on the board,cool the board and peel the paper right off cleanly.There is another kind of bakery paper which is a sugar base that I understand will disolve in water after ironing.I haven't found any to tyr yet! 73 Ken

2213. Re: FREEMEN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4k378t$c17@newsbf02.news.aol.com>
Source record: 106241

In article <3164E3DA.7E83@norfolk.infi.net>, Eric Jones
<ericwj@norfolk.infi.net> writes:

>
>Will they take a check?
>
>(idiots)
>
>

They will take a check, but not a Czech. They will also take idiots, and
do quite often.

2214. HF SSB Selective Call

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: gleizero@gate.net
Message-ID: <gleizero.12.000AC81B@gate.net>
Source record: 106242

```
HF-SSB Selective Call Units.
Brand new in the box.
Compatible with any SSB radio.
Excellent performance in poor S/N environments.
Ackback and Busy modes of operation.

Price: $99 each

Gus Leizerovich
gleizero@gate.net
```

2215. Re: [Q] Help! Building RF Dector For 18mhz - 22mhz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr5.171813.14007@ke4zv.atl.ga.us>
Source record: 106243

In article <NEWTNews.828551875.18409.Postmaster@GGHERB.MONSANTO.COM>
ggherb@ccmail.monsanto.com writes:
>
>I am looking to build a receiver for detecting RF from Jupiter.
>The range must cover 18Mhz - 22Mhz. I'd like to be able to tune in
>500Khz increments. The output will be directed to a 12-bit A/D for
>sampling. Any information, books to refer to, or existing schematics
>would greatly be appreciated. Keep in mind that I do not have an
>extensive RF design background.

Hmmm, this is an interesting approach. You need an eight channel
radio with a channel bandwidth of 500 kHz. Ordinary SW and amateur
radio receivers won't do since, while they'll tune the range, they
don't have the necessary IF bandwidth. A direct conversion receiver
seems the most logical approach, but you need a way to deal with
the image. You might start with one of Rick Campbell's R2 designs
and replace the opamp circuits with a pair of A/D converters on the
I and Q channels, and use a DSP to do the Hilbert Transform to get
single signal reception. A bank of eight crystals could be diode
switched in a Pierce circuit to get the LO, or you could use a DDS.
Either could be digitally controlled so that your data acquisition
system could "scan" the channels.

Since you only need 8 channels, you could forego the digital magic
and just diode switch 8 front end filters in gang with the crystal
switching to get single signal operation, but the constraints on
the filters would be rather strict if you wanted good image rejection.
Because you're going to digital baseband anyway, you might as well
plan on doing the single signal selectivity there as well. Your A/D
better flash at 2 MHz or faster to get well above the Nyquist limit.
That's going to put a bit of strain on the DSP chip, but there are a
few out there that can hack it if they only need to do a Hilbert
Transform on one stream and a multiplication with the other stream.

12-bits won't be enough dynamic range, however, and you're going to
have to use a digitally controlled attenuator in front of the receiver,
driven by a digitally derived AGC, to keep the signals of interest
centered in the dynamic range of the system. That may be a killer
constraint since there will be a number of strong narrowband signals
in each of the channels you'll be monitoring, and they likely will
drive the AGC down so much that the broadband emissions of Jupiter
may be pushed into the receiver noise floor. Perhaps you should
consider cascading A/D converters to give you 24-bit dynamics. Then
you won't need AGC. That'll sure limit your DSP options, however.

The only alternative, and the conventional method, would be to sweep a narrow band receiver across the channel and build up a composite of the 500 kHz channel with post processing. The downside of this is that you won't preserve coherency across the channel, so you'll be limited to recording statistical noise power.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2216. Re: Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4k3o3d$4cf@solaris.cc.vt.edu>
Source record: 106244

In article <4k30es$khk@abyss.West.Sun.COM>, myers@West.Sun.COM (Dana Myers) says:
>
>In article <4k1g6e$31g@crash.microserve.net>,
>WB3U <jackl@pinetree.microserve.com> wrote:
>>Post / CC by Mail
>>
>> Monty Wilson <mwilson@bangate.compaq.com> wrote:
>>
>>>What I want to know is: has anyone managed to take a late-
>>>model solid state transceiver (like mine) and modify it to
>>>run collector- modulated AM? Other than finding or winding
>>>a modulation transformer, it would seem relatively simple
>>>to modify a solid-state rig like this, and you could run
>>>a 40W carrier, which on 10m would be plenty.
>>
>>Check the price of replacement finals before you try this. The peak
>>Vcc that results from collector modulation may exceed their ratings.
>
>If you *really* want to use an FT-747 like this, I'd suggest using the
>radio as a low level exciter to feed a class-C amplifier chain with
>high level modulation. For the FT-747, you can get a low level output
>from the main PCB where the PA coax normally plugs in, and run the
>radio in split mode, CW on transmit / AM on receive.

The sound quality from a low-level modulated transmitter should be the same as that from a high-level modulated one, the only difference is that the power amplifier is not as efficient. Maybe there are harsh audio filters/processors intended for SSB use still in the audio path. Or maybe the problem is that you are telling the hard-core AMers that you are using a modern radio, and they just expect it to sound bad.

Direct modulation could be done by disconnecting the collector supply to the finals and connecting it to a source of high-power audio, such as a voltage follower. I wouldn't use a choke or transformer as that may allow the voltage to go too high or swing negative, which is likely to damage the finals. If the peak modulated voltage is 13.8V, there'll be no undue stress on the finals, but you'll still get 100 W PEP (25 W carrier). If you want/need more power, an external amplifier is the only way to get it safely.

Strange things may happen during the negative peaks when the bases of the finals still have high RF drive applied, but no collector voltage. I don't know if this has the potential to cause damage or not.

-Mike KD4QDM

2217. Re: 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4k3oae$4cf@solaris.cc.vt.edu>
Source record: 106245

In article <4jgila$52e@news.cyberportal.net>, rsill@cyberportal.net says:
>
>Does anybody know what the differences are between a 6146B and a 6146W
> transmitting tube?

There was considerable discussion about this last summer. As I remember,
the conclusion was that the 6146W was a military-grade version of the
6146A, having a 25W plate dissipation rating. Therefore the 6146B, with
a 35W rating, was considered superior for most uses.

-Mike KD4QDM

2218. I look for metal detectors creator for technical information exchange.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: "Irina N. Borisova" <bin@poisck.spb.su>
Message-ID: <AD2BMPnmi8@poisck.spb.su>
Source record: 106246

[No readable article body recovered]

2219. Re: (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr5.183552.14322@ke4zv.atl.ga.us>
Source record: 106247

In article <4jv0hm$k5v@laslo.netnet.net> douglas <ddouglas@netnet.net> writes:
>
>i'm very new to this amateur radio thing. tell me what i would need to
>reach a 10 mile radius. including amps, antenna, etc.

You can do it with a milliwatt or so of VHF/UHF energy (though boosting that to a watt would give you lots of margin) if the antenna is high enough. To cover a 10 mile radius service area, your antenna needs to be at least 300 feet above average terrain (called HAAT). Higher would be better if the local terrain is rough.

The other option is to use medium wave (160m) and try for ground wave coverage out to 10 miles. For a grade A signal contour, you'll need a vertical antenna about 133 feet tall over a good radial ground field, and an output power of about 1 kilowatt. You might get a 10 mile grade B contour with only 100 watts.

Filling a 10 mile radius is an awkward job. You need lots of height at VHF/UHF to pull it off, though power requirements are very modest. And at MW you need lots of power to get a good contour, due to the propagation path along the lossy Earth/Air interface, and the antenna is just plain big. If you were to say that you wanted a 300 or 3000 mile radius now, that would be easier. You could do that with a few milliwatts on HF using ionospheric propagation (the ionosphere is a very low loss propagation medium if you work near the MUF). But there would be a "dead band", or skip zone, stretching from near the transmitter to near the receiver where little or no signal would be received (or multiple skip zones for the latter distance). Back scatter can fill in some of those skip zones, but then you're back to needing a bunch of power.

That leads to a third option called NVIS, or Near Vertical Incidence Skywave. This would involve firing a lower HF (80m) signal almost straight up toward the ionosphere and filling the service area with backscatter. 100 watts and a (very) low dipole will do for this, and will give reasonable signal fill out to a 75-100 mile radius during some times of the day. It won't work all the time, however, because D layer absorption will eat your signal at midday.

Now if you don't insist on a grade A coverage area with a radius of 10 miles, and don't demand 7x24 service, but instead just want to work some stations at a distance of 10 miles from time to time, then the situation changes radically. You can put up with holes in the service area, you can use low antennas, and you can take advantage of favorable terrain. In that case, a 45 watt VHF/UHF mobile rig will work, or even a 5 watt HT will often serve given favorable terrain, or a modest 100 watt HF station operating on any of the HF bands will work at selected times of the day.

All of these latter options will have holes in their coverage area, won't offer a solid 10 mile radius contour, but will certainly suffice to make a large number of contacts with other amateurs inside (and outside, often *way* outside) the 10 mile radius. Unless you're planning a repeater, worrying about service contours isn't something most amateurs do. Most amateurs are content to reach some stations at some distances on a fairly consistent basis. That doesn't take elaborate equipment, high power, or monster antennas in most cases. And if you're in the footprint of a good repeater, then you may find a HT will give you a 60 mile radius contour (because all the hard work has been done by the repeater, well situated on a very high site).

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2220. Re: 6m XCVR project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4k3l87$na2@abyss.West.Sun.COM>
Source record: 106248

In article <emeb-0404962043490001@s169.phxslip4.indirect.com>,
Eric M. Brombaugh <emeb@indirect.com> wrote:
>Hello,
>
>I've recently become interested in 6m operation, and have started a small
>project to build a 6m FM Transceiver. I'm basing the whole thing on a
>bunch of Motorola parts which were originally intended for cordless phones.
>
>I started with the reciever, based on an MC3362 Dual Conversion FM reciever.
>It looks pretty good on paper, and overall it works pretty well. I use an
>MC145162 PLL chip to lock the first LO, and the 10.245 2nd LO as the input
>to the reference divider.
>
>As it stands right now, the thing has a sensitivity of about -100 dBm. This
>is about 20 dB off of what it should be able to do, and I think I know why:
>Looking at the 1st LO on a spectrum analyzer, it is REALLY messy. I have
>tried all the common solutions to phase noise in PLLs - wider loop bandwidth,
>regulation of the Phase Detector and VCO supplies, boosting the VCO output
>levels into the feedback divider, but no improvments yet.

The MC3362 isn't all that sensitive by itself - around -100dBm if I
recall correctly. If you want more sensitivity, you'll need to
add a pre-amp, but keep in mind the MC3362 mixer isn't all that strong.

Increasing the loop bandwidth can reduce the close-in phase noise
of the VCO if your reference oscillator is clean enough, but the
trade-off is that you'll probably see increased reference sideband
levels. I'd suggest keeping the loop bandwidth below 50Hz and the
damoing around .6 - .8.

If the regulator used for the VCO and PD supply is very noisy, that
will show up in the output spectrum.

The loop divider in the MC145162 only requires a volt of so of
p-p amplitude, I doubt this is your problem..

>So, anyone have any ideas on other things to do to clean up that LO?

To begin with, the LO not be your problem at all. Check your input
match to the MC3362 - you might be able to pick up 10dB here if you're
not properly matched to the Rp=660 + Cp = 7.2pF input impedance
specified in the data sheet. A balun wound on a ferrite core would
probably do the trick here. Also, to get a sensitivity better
than -107 dBm, you'll probably need a pre-amp.

If the VCO really is problem, the best thing you can do is make
sure the VCO tank Q is as good as possible and then use only the
minimum necessary VCO gain to maintain lock over the desired tuning
range under the intended range of operating conditions.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

2221. Re: Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr5.192131.14608@ke4zv.atl.ga.us>
Source record: 106249

In article <DpCtAy.3vp@twisto.eng.hou.compaq.com> Monty Wilson
<mwilson@bangate.compaq.com> writes:
>
>What I want to know is: has anyone managed to take a late-
>model solid state transceiver (like mine) and modify it to
>run collector- modulated AM? Other than finding or winding
>a modulation transformer, it would seem relatively simple
>to modify a solid-state rig like this, and you could run
>a 40W carrier, which on 10m would be plenty.

You can do this, but there are a few gotchas. The final of
a 100 watt solid state rig may draw 20 amps, modulation
transformers aren't the way to go here. What you can do is
use a big honking AF power transistor in series with the
collector lead. Bias it so you get about 40 watts carrier
under full RF drive, then modulate it so that the voltage
swings from near zero to near full supply in step with the
audio drive.

The main gotcha is that the PA likely won't modulate very linearly
treated this way. Adjust audio drive using a modulation monitor for
best symmetric modulation. This may be somewhat less than 100%,
particularly on negative peaks.

If you want to get clever, envelope demodulate the AM signal and
use that as a negative feedback to the modulator. This will linearize
the modulation nicely if done properly.

The other gotchas are the usual, watch PA dissipation limits, and
watch PA PEP voltage. A "100 watt" SSB PA isn't really 100 watts
when you poke a constant carrier through it. Depending on PA
design, it may be common base, in that case you have to modulate
the driver too in order to get 100% modulation.

There's really nothing wrong with low level AM modulation, as long
as the PA has low IMD. You can get just as good a signal quality
with low level modulation and linear amplification as you can with
plate modulation, efficiency just isn't as good. We low level modulate
broadcast TV transmitters, and we have much more stringent signal
quality requirements to meet than does AM voice.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org

Lawrenceville, GA 30244 | |

2222. Sweep tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: sschmidt@austin.ibm.com
Message-ID: <4k3t1k$1034@ausnews.austin.ibm.com>
Source record: 106250

>>>>
>>>>I think Yaesu used the 6146 tube. Is this a good choice?
>>>>
>>
>>Actually the Yaesu FT101B through the FT101E used a pair of 6JS6C sweep
>>tubes driven by a 12BY7A.
>>
>>Not the best transmitter tubes in the world, but the story I heard was
>>that in the '50s-'70s rf tubes like the 6146s were not available to the
>>Japanese,(embargos or whatever) so they used whatever they had.
>>
>>73s
>>
>>Wayne, KI$XR
>>
>>
>Aside from problems the
>Japanese may have had, why would anyone have wanted to make a sweep
>tube amplifier anyway?
>
>Tom Donaly KA6RUH
>
>Sweep tubes can handle larg PEAK currents. Ideal for low duty cycle
>equipment. They were cheep also.

>
Bill K7NOM

My two cents on sweep tubes. I bought a Drake TR4C back in 1975. It uses 3 (if I remember right, as my dad has the radio now) 6JG6's that have a 300 watt PEP input rating. Some time in the last 20 years I bought a new set of finals. Only thing is that they never needed to be replaced! I used the radio for years, and now my dad uses the radio at least two hours a week (as I talk to him at least that long every week on 20m). The old sweep tubes just keep on trucking (although we both used a small fan mounted over the finals). Drake reason for using 6JG6's :they wanted a lower profile rig, which was not possiable with the 6146's. I still wish it had 6146's though!

Steve KG5KL

2223. Re: Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4k3vp6$kcp@newsbf02.news.aol.com>
Source record: 106251

When collector modulating a solid state amplifier, the following conditions must be met:

1.) The driver must also be modulated. This is because driver power "leaks" directly through the PA to the output. Unless the drive power is also modulated the correct amount, you won't be able to get more than 80 or 90 percent modulation.

2.) The PA and driver must be class C. If a stage is operating in a linear mode, it will be impossible to modulate it without severe distortion.

Without meeting these requirements, a solid state PA can not be correctly collector modulated no matter what components are used. You can bet meeting this criteria isn't easy.

I think someone else hit it right on the head. If you want to high level modulate, plug in a stage designed to do that. You'll gain 30 percent collector efficiency, and it won't sound a bit better than proper low level modulation.

73 Tom

2224. Re: 6m XCVR project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: hamlab@enterprise.net
Message-ID: <3165939c.11293623@194.72.192.4>
Source record: 106252

Perhaps I can help with my experiance of 2 to 6M design,

>>I started with the reciever, based on an MC3362 Dual Conversion FM reciever.
>>It looks pretty good on paper, and overall it works pretty well. I use an
>>MC145162 PLL chip to lock the first LO, and the 10.245 2nd LO as the input
>>to the reference divider.

In my designs I use an MC3371, this device provides IF amplification
squelch and S meter outputs. For the front end I use a dual gate
mosfet (actually has too much gain and had to be biased to a lower
gain for 6M operation to give sensible S meter response), the mixer
was a simple junction FET with LO injected into the source feeding
four poles of crystal filter and then on to the IF chip.

>Increasing the loop bandwidth can reduce the close-in phase noise
>of the VCO if your reference oscillator is clean enough, but the
>trade-off is that you'll probably see increased reference sideband
>levels. I'd suggest keeping the loop bandwidth below 50Hz and the
>damoing around .6 - .8.

I found it very hard to eliminate spurious noise from the VCO when
using the Motorola synth. chips, but turning to the Philips TSA1057
made the loop filter very simple and very little reference frequency
gets through to the VCO.

For info. on how I did it follow the HTML text on my WWW page
html://homepages.enterprise.net/hamlab/ for the piccolo transciever.

2225. Re: 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4k49op$e9b@orange.iap.net.au>
Source record: 106253

rsill@cyberportal.net wrote:

>Does anybody know what the differences are between a 6146B and a 6146W transmitting tube?

> Bob W1FYO

"W" is _supposedly_ the ruggedized military version.

Uncle Brian VK6BQN

2226. Radio Broadcasting Database LW MW, SW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Charles Bolland <chuck@flinet.com>
Message-ID: <3165F362.7A45@flinet.com>
Source record: 106254
Cross-posted to: rec.radio.amateur.equipment,rec,radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc.,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.noncomm,rec.radio.scanner,rec.radio.shortwave

A Stand alone IBM compatible Broadcasting Radio Station Database Program
for longwave, Mediumwave, and Shortwave. Over 4,000 records included
already. Completely, read/write and update-able.

If you would like a copy, send your Mailing Address - the one you
receive letters with - and your E-mail address. The program will be
sent back via E-mail to you within 24 hours.

Your mailing address will be used to send you further details on a full
featured database program called Voyageur. All information is
confidential.....!

Hope to hear from you.

Chuck Bolland
chuck@flinet.com

P.O. BOX 18402
WEST PALM BEACH, FL 33416

KA4PRF

2227. 6MJ6 Sweep Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Brad Adams <beadams@edge.net>
Message-ID: <3165D4E5.39AA@edge.net>
Source record: 106255

Does anyone know of a good source for 6MJ6 sweep tubes? I have an AMP SUPPLY LA1000 that I would like to have some spare tubes for.

Leave email for beadams@edge.net or here on this newsgroup.

73... Brad N4PYI

2228. [Q] Pulling a crystall up 1000ppm. Doable ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <4k4ret$d78@cocoa.brown.edu>
Source record: 106256

Hi,

I have a 22 MHz crystall and I want to pull it up in frequency.
Ideally 1000ppm (0.1%) but barring that I want get as close as
possible to this higher value. The stability of the oscillator
is not important.

I'm assuming it's a series resonant crystall and I'm
speculating that if I put a capacitor in series with the
crystall it's resonant frequency will increase.

I wonder if I'm on the right track and I'm fishing for a
ballpark value on the capacitor I have to insert.

Thanks,
John

2229. Re: FREEMEN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-0504962119500001@squaw-d118.sierra.net>
Source record: 106257

In article <4k378t$c17@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom)
wrote:

> In article <3164E3DA.7E83@norfolk.infi.net>, Eric Jones
> <ericwj@norfolk.infi.net> writes:
>
> >
> >Will they take a check?
> >
> >(idiots)
> >
> >
>
> They will take a check, but not a Czech. They will also take idiots, and
> do quite often.

Really, a quite good pun. I'll bet you can also do that real time...

Recent headline in a local paper: "Pipe bombs tied to Freemen," (We all
Hope so)!

2230. Re: HF SSB Selective Call

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-0504962121500001@squaw-d118.sierra.net>
Source record: 106258

In article <gleizero.12.000AC81B@gate.net>, gleizero@gate.net (Gustavo D. Leizerovich) wrote:

> HF-SSB Selective Call Units.
> Brand new in the box.
> Compatible with any SSB radio.
> Excellent performance in poor S/N environments.
> Ackback and Busy modes of operation.
>
> Price: $99 each
>
> Gus Leizerovich
> gleizero@gate.net

Can you elucidate? What/who are they? By whom? When?

2231. Best DSP Outboard Radio ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: ferraro@ix.netcom.com
Message-ID: <4k3oce$1j@reader2.ix.netcom.com>
Source record: 106259

A Friend of mine would like to find out any user experience with any of the available dsp units. Any reports would be appreciated.

73's de Mike K6ZSR

2232. CB to 10m Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-05 00:00:00 UTC
From: Jeff.Luce@f150.n2613.z1.fidonet.org
Message-ID: <829268924.AA00536@rochgte.fidonet.org>
Source record: 106260

To: (Gary) turtle@wwa.com
On 03-23-96 Gary wrote to All...

G > From: (Gary) turtle@wwa.com
G > Organization: WorldWide Access (tm) - Chicagoland Internet
G > Services (http://www.wwa.com)
G >
G > > Shelby Merrick <smerrick@som-uky.campus.mci.net> writes:
G > > Does anyone have some pointers on modifying a cb for 10m output?
G > Would
G > > one have to use transverters of some sort, or could you tune the
G > radio
G > > internally down to 10m? I have a couple of rat shack 11m good for
G > > nothing cb's laying around and need a use for them. Thanx in
G > advance.
G > >
G > > 73's
G > > KE4AKA
G > > Shelby
G > >
G > >>>>
G > Hi Shelby,
G >
G > By manipulating the loop oscillator crystal frequency of your CB set,
G > you can move the 40 channel (400Khz aprox.) segment to ant part of
G > 10 meters. It's best to start with a SSB radio for CW but you can
G > use an AM setif you want to go up to 29 Mhz (AM window).
G >
G > If you want to "E"mail me on specific modification of your particular
G > rig, you need to tell me:
G >
G > 1. The chip number of your PLL.
G > 2. What frequency you want to go to.
G >
G >
G > "73" Gary KF9CM
G >
G >
G >
G > ---
G > * Origin: Net 2613 Newsgroups Distribution System (1:2613/335.0)

---
* OFFLINE 1.56

2233. Re: Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: Grant Youngman <nq5t@gte.net>
Message-ID: <316757B8.38DE@gte.net>
Source record: 106179

> > Monty Wilson <mwilson@bangate.compaq.com> wrote:
> >
> >>What I want to know is: has anyone managed to take a late-
> >>model solid state transceiver (like mine) and modify it to
> >>run collector- modulated AM? Other than finding or winding
> >>a modulation transformer, it would seem relatively simple
> >>to modify a solid-state rig like this, and you could run
> >>a 40W carrier, which on 10m would be plenty.

Unless you're just into experimenting, I can't imagine why you would want to do this at all.

You can purchase a decent AM transmitter for a few hundred dollars or less, and spend your time restoring it and getting it going.

Or, you can run most modern rigs on AM and still have an excellent signal. Most sandbox radios sound bad on AM not because they "just do", but because they are improperly adjusted -- usually too much carrier output (leaving insufficient headroom to develop the required PEP at about 4 times the carrier power without distortion in the finals) and WAAAAY to much audio drive. There are many fine sounding legal limit AM stations operating in the AM windows which start life as modern transceivers, properly adjusted. And they are indistinguishable from the plate modulated guys (like me).

Grant/NQ5T

2234. Re: G2DAF linear amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: frello@prairie.lakes.com
Message-ID: <4k47dl$56r@News2.Lakes.com>
Source record: 106261

Lennart Nilsson <ln@hagagymnasiet.norrkoping.se> wrote:

>I'm building a HF-PA with three 813's in grounded grid but I
>would like to try the G2DAF grid-driven design instead. Has
>anybody compared efficiency and linearity between those circuits?
>- SM5DFF

I think I would forget the 813s and go with a 4CX800A from Svetlana and swamp the grid with a 50 ohm resistor. Really simple circuit. Relatively low plate voltage requirement, good gain, neutralization not required etc. If you can run higher power in SM land than 800 watts of plate dissipation would allow try the 4CX1600B. These two tubes are quite inexpensive.

73, Frank, KG0FC/G8CJ, Mankato, Minnesota.

2235. Re: (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4k4cvu$npc@crash.microserve.net>
Source record: 106262

douglas <ddouglas@netnet.net> wrote:

>i'm very new to this amateur radio thing. tell me what i would need
>to reach a 10 mile radius. including amps, antenna, etc.

You need very little equipment for a 10 mile radius. Do you have
a ham license?

73,
Jack WB3U

2236. Solar power station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: bmicales@facstaff.wisc.edu
Message-ID: <4k4vtm$1tbe@news.doit.wisc.edu>
Source record: 106263

Hello all,

I am thinking of putting together a portable packet station for field and/or emergency work. One source of power would of course be rechargeable batteries. However, I also thought one might be able to use solar panels to help run the radio (13.5 DCV, 1200 mAhr),a laptop (12 DCV, 1.7A, and a TNC (6-25 DCV, <40 ma).

Does anyone know of a place that sells solar panels? I have found a few but they appear a bit high. On the other hand this is my first attempt so all the help would be welcomed. Thank you

Bruce Micales WA2DEU
E-mail: bmicales@facstaff.wisc.edu
Packet : WA2DEU@WD9ESU.EN53IE.WI.USA.NOAM

2237. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: nstorman@aol.com
Message-ID: <4k5bvh$4kj@newsbf02.news.aol.com>
Source record: 106264

Sorry, I don't have any suggestions to your questions but do hope someone does and look forward to reading them.

I have been seeking some info along these lines, though. I once read an article (maybe ad?) about a process for producing multi-layer boards using conductive ink and, I believe, mylar sheets. The idea was to print them out and then laminate them together. I seem to remember the company or process was called "Green something or other". Does anyone have any information related to this process?

Thanks,

Norman

2238. Re: Air core coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <4k4cce$28h@tierra.santafe.edu>
Source record: 106265

wlfuqu00@service1.UKy.EDU (William L. Fuqua III) wrote:

> Where do you get large air core coils now days?

>Say 3 or 3.5 inches in dia and 8 or 10 TPI.

> 73
> Bill ko4ww

> William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
> Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
> University of Kentucky , Lexington, Ky 40506-0055
>
>
Try winding your own using enamel wire on PVC pipe.

de K9GXC, Jim

2239. Re: Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.116.00322ACB@azstarnet.com>
Source record: 106266

In article <peake.163.006330BA@dstos3.dsto.gov.au> peake@dstos3.dsto.gov.au (Alan Peake) writes:
>From: peake@dstos3.dsto.gov.au (Alan Peake)
>Subject: Re: Conversion of noise voltage into noise figure ?
>Date: Mon, 1 Apr 1996 11:27:36

[snip]

>For To=290, dBm at input is now -174 + 10*logB + 10*log(F-1)
>It doesn't matter for large noise figures i.e. where noise factor>>1 but
>consider a noise figure of 0dB (noise factor = 1) This is a noiseless
>amplifier and thus should have an infinitely small sensitivity which this
>formula gives. 10*log(1-1) is very small!
>So why doesn't the -174 + 10*logB + noise figure give infinite sensitivity for
>a perfect amplifier (noise figure = 0)?

I think you are confusing sensitivity and signal-to-noise ratio (SNR). Your system with a "perfect" amplifier does not have infinite sensitivity. The 0 dB noise figure simply means that the amplifier delivers the same SNR at its output as appears at its input. If the noise limited SNR at the input is -20 dB, it's still -20 dB at the output. Can you use an SNR of -20dB? If so, you can communicate. Otherwise, your "perfect" (or any other) amplifier doesn't help much does it?

73,

Wes -- N7WS

2240. Re: [Q] Pulling a crystall up 1000ppm. Doable ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.117.004B8FAF@azstarnet.com>
Source record: 106267

In article <4k4ret$d78@cocoa.brown.edu> CC015012@brownvm.brown.edu (John 015) writes:
>From: CC015012@brownvm.brown.edu (John 015)
>Subject: [Q] Pulling a crystall up 1000ppm. Doable ?
>Date: Fri, 5 Apr 1996 23:16:23 EST

>Hi,

>I have a 22 MHz crystall and I want to pull it up in frequency.
>Ideally 1000ppm (0.1%) but barring that I want get as close as
>possible to this higher value. The stability of the oscillator
>is not important.

>I'm assuming it's a series resonant crystall and I'm
>speculating that if I put a capacitor in series with the
>crystall it's resonant frequency will increase.

Using your assumption of a series calibration frequency, it is unlikely that you can move it up 22 KHz. Using the series capacitor, the crystal is used in an inductive mode. It will appear inductive between the series resonance and anti-resonance frequencies. Without knowing more about the crystal, it is impossible to know this separation, however, it is very doubtful that it exceeds 3 to 5 KHz.

>I wonder if I'm on the right track and I'm fishing for a
>ballpark value on the capacitor I have to insert.

>Thanks,
>John

2241. Re: [Q] Pulling a crystall up 1000ppm. Doable ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <3166F272.F6A@netaxs.com>
Source record: 106268

John 015 wrote:
>
> Hi,
>
> I have a 22 MHz crystall and I want to pull it up in frequency.
> Ideally 1000ppm (0.1%) but barring that I want get as close as
> possible to this higher value. The stability of the oscillator
> is not important.
>
> I'm assuming it's a series resonant crystall and I'm
> speculating that if I put a capacitor in series with the
> crystall it's resonant frequency will increase.
>

Forget about doing anything which materially affects the series resonant frequency of the crystal. No can do!
If the 22 MHz frrequency is truly the crystal's SERIES resonant frequency, then you can probably hit the higher frequency by operating the crystal in a circuit which runs at PARALLEL resonance.

Get a CMOS inverter, like the 74HCU04 (should be an unbuffered part, hence the "U"). Put a 100K (not critical at all) resistor from output to input of one of the inverters. This will bias the output to 1/2 Vcc. Put the crystal from output to input. Put a 33Pf cap from input to ground, and another from output to ground. The circuit should oscillate at the crystal's parallel resonant frequency. Adjust the capacitor at the input of the inverter to "pull" the oscillation frequency.

Joe
WA3CMQ

2242. Silver plating PCB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: Pete McQuail <g8dcj@samwise.demon.co.uk>
Message-ID: <teNjULASIbZxEwAM@samwise.demon.co.uk>
Source record: 106269

Does anyone know of a chemical method for silver plating PCBs? I currently use silver paint but find that this can be a bit of a pain if the area to be coated is large or the tracks are thin/close together. I know that there is a chemical method for applying tin coats to copper. Is there an equivalent for silver?
Pete Mcquail, G8DCJ

2243. Fairly direct plotting of PCB s

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <96097.211108IFF161@DJUKFA11.BITNET>
Source record: 106270

While throwing out a few suggestions to the fellow who wanted to run PCB stock through his printer I was called to the thinking stool and now have a proposal. I hope somebody will try it and let us all know!
The chemistry assumed in the following is ancient and has been used commercially in the printing industry for making copper printing plates and/or silk screens. It is not too half-baked to be practically sure of failure!
To make resist in place on a PCB:

1) Coat the copper foil with a suitably dilute "solution" of gelatin or egg albumin (or just plain egg white.) I think gum Arabic also is used and Elmer's glue is another potential candidate. You want a tight layer without pinholes or other defects, and rather thin.
2) Get an old pen for a plotter of the type you have available. Wash it out well. Felt tips pens in good condition ought to work but "Rapidograph" pens probably will yield better results. Fill the pen with a dichromate, where sodium, potassium or ammonium are all good candidates. Use this to plot the PCB in your plotter. (A bit of dye in the solution might help. but don't use it at first. It would let you see the lines but if the type of dye is badly chosen it could absorb too much of the precious UV you will soon be using for fixing the coating.)
3) Expose the dried PCB to a strong UV source for awhile. I think near UV is sufficient and far less nasty for the eyes than the deep sort of UV. I have no proposal for the duration of the exposure except it is likely to be several times longer than needed for conventional photresists. Overdo it at first, then cut back if the resist is curing, or add a still greater dose of "overdoing" it.
4) Rinse in warm water. Somewhat above body temperature is probably good enough. Raise the temperature if your starting temperature seems not to be taking off the unwritten parts of the resist. Rinse well enough to get off all the unwanted coating.
5) Dry well. Baking at a moderate temperature could aid fixing of the resist and give better durability.
6) Etch as you always do.

7) If all else fails, try finding an old book describing the process a little more completely for printers and silk screen printers. There will be nothing on all of the above but you will learn about temperatures, etc.

NOTE: My editor does not allow me to add this above- I am sorry. A good concentration for the dichromate is about 2% by weight in water, for starting, at least. (Treat the dichromate with good sense- like a lot of things, it is believed to be a carcinogen. Do not inhale dust: wash your hands after working with it.)

I expect some hopeful results at an early stage for anyone trying this.
Getting the process perfected probably will take some experience. Some
possible hints:
A wetting agent could help getting the "ink" to write well, but
probably is not needed as the coatings have good water afinity.
The right dye will aid inspection of the plotter's efforts before
doing the exposure. The wrong dye could ruin everything.
A double pass of the plotter might improve results. The "ink" must
get down into the coating; however, writing on a still wet coating might cause
a Rapidograph to plow up the resist, so some caution is needed.
I believe the resist changes appearance when it is sufficiently
exposed so you may get a clue when to stop.
This stuff is not very light sensitive, in case I must tell you that,
so working in a normally lighted room ought to be safe, except fluorescent
lamps may emit too much UV. Tunsten is recommended.
Suppliers for printers can probably sell you the ingredients which you
can't get elesewhere. Some hobby shops could have supplies for silk screening,
or try a good supplier for artists. I hope I do not have to tell you where to
get gelatin or egg whites (refined albumin is probably a little better, however
and it will be harder to get.)
Happy experimenting!! A little time invested in development might
lead to a lot of convenience later, especially for us if you pass on your
successful recipes.

Bob

PS For those who are in places where Elmer's is not known, look for a PVA
type of glue. These are the white sort used for wood and sometimes paper.
Not very treatening to the health as far as I know.
I do not know how you remove the resist after the etching is completed
but try even hotter water. Bleach probably works if the hot water does not.
Or Draino. These will get most organic materials. Tey convert many organic
things to some kind of soap, so use them with care. If you get them on your
hands, that soapy feeling is not the chemicals, it is you. Rinse well and soon.
Wear eye protection against splashes.
Mechanical methods, probably on the well-wetted, resist should be just
fine and not too much labor.

2244. 6M antenna tuner designs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8288213311202@humnet.humberc.on.ca>
Source record: 106271

Looking for various antenna tuner designs for use on 6 meters.
Im interested in values of the RF components, I will adapt for use
in an automatic tuner design.

Thanks !

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

2245. Re: 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: raoul@pt.olympus.net
Message-ID: <raoul-0604960954430001@ptpm006.olympus.net>
Source record: 106272

In article <4jgila$52e@news.cyberportal.net>, rsill@cyberportal.net wrote:

> Does anybody know what the differences are between a 6146B and a 6146W
transmitting tube?

The W is industrial strength and takes more abuse. There may be other
things involved, but this was the explanation when I bought my W for the
ol' DX-60.

Jeff

--
Jeffrey E. Benedict raoul@pt.olympus.net
Box 277, Chimacum, WA 98325 -

Large Format Photography - 4x5/5x7/8x10 - "Too Big is Big Enough"

2246. Re: Silver plating PCB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: Bill Pugh G8IAY <bill@birchnet.demon.co.uk>
Message-ID: <wDN8DCAp4tZxEwiO@birchnet.demon.co.uk>
Source record: 106273

In article <teNjULASIbZxEwAM@samwise.demon.co.uk>, Pete McQuail
<g8dcj@samwise.demon.co.uk> writes
>Does anyone know of a chemical method for silver plating PCBs? I
>currently use silver paint but find that this can be a bit of a pain if
>the area to be coated is large or the tracks are thin/close together. I
>know that there is a chemical method for applying tin coats to copper.
>Is there an equivalent for silver?
>Pete Mcquail, G8DCJ
Many many years ago ie. about 30 when I was but a lad there was an
article in one of the radio mags, radio constructor maybe? This
described how to put track ont glass, it involved laying down a layer of
carbon and then plating this with silver. Unfortunately the only two
things I can remember are that a) it involved heating something like
siver nitrate and passing the fumes over the track and b) my dad, who
was a chemist said it looked a bit dangerous!
So it is possible that way. On the other hand how about
electrolosis (sp?) join all the tracks together and connect to a dc
supply and place in a conductive solution, salt water? Connect the other
side of the supply to an old piece of silver, tea pot etc.
I'm sure that someone will come up with a better idea and if they
do I may be tempted to try it too. I've etched a fair few pcb's and the
one thing that lets them down is the finnish so this could be the
answer.
Good luck.
--
Bill Pugh G8IAY

2247. Re: Newbie needs help with a local set

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: michaelm@doruk.COM.TR
Message-ID: <9604052051.aa08565@bbs.doruk.com.tr>
Source record: 106274

On Thu, 04 Apr 96 jackl@pinetree.microserve.com (WB3U) wrote:

> Jaded <72260.3026@CompuServe.COM> wrote:
>
>>I want to set up a local station with a 1000 meter radius. I
>>know I'll need a liscience, 'cause I don't feel like having the
>>FCC coming in the magic vans. I have a few friends who will help
>>with the cost, but I want to keep it under $100.
>
>Have you called Harris?

C'mon, Jack, he said $100, not $100,000. Might find a good, used
"liscience" at that price, though...

Seriously, try the next hamfest flea market in your area. Flash that
$100 bill and then stand back. One of 'em is sure to take the bait.
Git you a "liscience" and a whole box of goodies to play with, I'll bet.

Sorry. Just couldn't resist <g>.

de Mike (TA2ZG/W2AV) Remote Sysop TA2EM BBS - first PRBBS in Turkiye
Amateur Packet Radio: TA2ZG@TA2EM.#IST.TUR.EU
Internet (email only): Michael C. McHugh <MichaelM@doruk.com.tr>

2248. Re: Transmitting tubes!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4k53c7$s8e@dfw-ixnews1.ix.netcom.com>
Source record: 106275

In <4jls3c$dld@news.calweb.com> William W Janssen <billj@calweb.com>
writes:

>>Aside from problems the
>>Japanese may have had, why would anyone have wanted to make a sweep
>>tube amplifier anyway?
>>
>>Tom Donaly KA6RUH
>>
>Sweep tubes can handle larg PEAK currents. Ideal for low duty cycle
>equipment. They were cheep also.

Yep, and yep (emphasis on the 'were'). It's interesting to look at an
old sweep tube like the 6BG6 (an 807 with an octal base) and compare it
to a more modern tube of about the same plate dissipation. The modern
sweep tube will have a cathode 2-3 times larger. -Lots- of peak
current capability.

73,
Mike, KK6GM

2249. Re: [Q] Pulling a crystall up 1000ppm. Doable

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: CC015012@brownvm.brown.edu
Message-ID: <4k7c26$8vf@cocoa.brown.edu>
Source record: 106276

In article <3166F272.F6A@netaxs.com>, Rocci <rocci@netaxs.com> said:

>> I have a 22 MHz crystall and I want to pull it up in frequency.
>> Ideally 1000ppm (0.1%) but barring that I want get as close as
>> possible to this higher value. The stability of the oscillator
>> is not important.
>>
>
>Forget about doing anything which materially affects the series
>resonant frequency of the crystal. No can do!
>If the 22 MHz frrequency is truly the crystal's SERIES resonant
>frequency, then you can probably hit the higher frequency by operating
>the crystal in a circuit which runs at PARALLEL resonance.
>
>Get a CMOS inverter, like the 74HCU04 (should be an unbuffered part,
>hence the "U"). Put a 100K (not critical at all) resistor from output to
>input of one of the inverters. This will bias the output to 1/2 Vcc. Put
>the crystal from output to input. Put a 33Pf cap from input to ground,
>and another from output to ground. The circuit should oscillate at the
>crystal's parallel resonant frequency. Adjust the capacitor at the input
>of the inverter to "pull" the oscillation frequency.
>
Hmm, my optimism is fadin.. :-). I'll try this though
and see what happens.

Thanks,
John

2250. Re: Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr6.181231.18910@ke4zv.atl.ga.us>
Source record: 106277

In article <4k3vp6$kcp@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>When collector modulating a solid state amplifier, the following
>conditions must be met:
>
>1.) The driver must also be modulated. This is because driver power
>"leaks" directly through the PA to the output. Unless the drive power is
>also modulated the correct amount, you won't be able to get more than 80
>or 90 percent modulation.

I thought that only PAs that were operating common base were subject
to this limitation.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2251. Re: 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-06 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr6.181536.19014@ke4zv.atl.ga.us>
Source record: 106278

In article <4k49op$e9b@orange.iap.net.au> uncle@iap.net.au writes:
>rsill@cyberportal.net wrote:
>>Does anybody know what the differences are between a 6146B and a 6146W transmitting tube?
>
>> Bob W1FYO
>
>"W" is _supposedly_ the ruggedized military version.
>
>Uncle Brian VK6BQN

Yeah, but that refers to *physical* ruggedness, not increased
electrical ruggedness. In the latter regard, it is no different
from a 6146A. The 6146B has 10 more watts of plate dissipation.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2252. Plantronics Starset Headset information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: relliott@cyberhighway.net
Message-ID: <4k78fg$48q@host-3.cyberhighway.net>
Source record: 106180
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

Does anybody know of any interface circuits for adapting a telephone style Plantronics Starset headset to radio use. I have noticed something like that but I can not remember where I saw it. If anyone can help please e-mail me with information.

Thanks,
Rich Elliott KC7CDK
relliott@cyberhighway.net
http://www.cyberhighway.net/~relliott/

2253. Re: fuses vs. circuit breakers vs. polyswitch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: jcarey
Message-ID: <4k78fq$ia5@news-2.csn.net>
Source record: 106181

Tom Kreyche <tkreyche@well.com> wrote:

>Circuit breakers appear to have a voltage drop of about 1.5 v which
>minimizes useful battery life, so it appears to be a bad option for a
>system which isn't charging continuously.

Look a little bit more. Bussman makes some very nice, light weight fuses at low values. However, they may fail completely if the battery is capable of supplying too much voltage/current. This is because there is an internal resistor used to heat a bi-metal strip which trips when the current draw becomes too great. Under extreme faults, this resistor opens up, just like a fuse! This also means that the trip point changes with ambient temperature, which you just might find problematic for sailplanes.

The PolySwitch (tm) has a limited life, slow trip time, and is sensitive to ambient temperature. Note also that the polyswitch opens up by becoming a high resistance, which gets REALLY hot when it trips. This means that the load on the battery doesn't dissappear when the PolySwitch (tm) trips.

PolySwitches (tm) find application especially in places where it is INCREDIBLY difficult to change a fuse (i.e. a craftsperson might need to climb a telephone pole, you might need to send an instrument back to the factory to get access to the fuse, etc.).

>Any suggestions?

If it was me, I'd use a fuse. It's lightweight, reliable, and fast.

YMMV.

Joe Carey

careyj@csn.net
joec@aztek.com

2254. Question: Xtal Grinding Technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: rmwatson@eskimo.com
Message-ID: <DpH3Hq.6Ez@eskimo.com>
Source record: 106182

I recently was discussing with a friend of mine, a technique that seems to be quite interesting, yet seems almost too good to be true. I was wondering if anybody else has heard of this technique?

It is used when regrinding crystals from a lower frequency to a higher frequency, (what else?), anyway, here goes:

You take a sheet of aluminum foil and lay it down on the workbench, and upon the top of the aluminum foil you lay a sheet of glass. You take some jumper wires and connect one end to the aluminum foil, and the other end to the center conductor of your receiver. You then take the receiver and tune in to the "target" crystal frequency. You then begin to grind the crystal, (using Comet and water, or some other recommended abrasive, in the figure-eight pattern), and while you are grinding, you will begin to hear the oscillation of the crystal through the receiver.

I was told that this will bring the frequency to close proximity, but I was thinking you could also use the audio filters to "narrow" the target.

Has anybody tried this out at one time or another, and if so, do you have any further suggestions that may help me (or others)?

Thanks much,

Robert/KJ7BO
rmwatson@eskimo.com

2255. Re: Question: Xtal Grinding Technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: ecgallup@mlode.com
Message-ID: <4k7i26$r0p@news.wco.com>
Source record: 106183

In article <DpH3Hq.6Ez@eskimo.com>, rmwatson@eskimo.com (Robert
Watson) wrote:
>
>I recently was discussing with a friend of mine, a technique that seems to
>be quite interesting, yet seems almost too good to be true. I was
>wondering if anybody else has heard of this technique?
>
>It is used when regrinding crystals from a lower frequency to a higher
>frequency, (what else?), anyway, here goes: .....

On some crystals you can take them DOWN slightly by putting lead on the
surface with a pencil. Your same technique (omitted here) might also apply.

Ed WB6SAT ecgallup@mlode.com

2256. Looking for doppler schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: redbone@juno.COM
Message-ID: <19960407.005456.10039.3.redbone@juno.com>
Source record: 106184

Subject: Looking for doppler schematics

Andreas Junklewitz wrote:
>
> I'm looking for schematics to build a doppler
> unit for 144-146MHz. Was there something in
> the QEX?
>
> Any hints are appreciated. Thank you very much
> in advance.
>
> Bye,
> Andreas
>

Andreas check out this site for Doppler info:

http://members.aol.com/bmgenginc/

Doug
KC8CGX

2257. Pulling a crystal up to 1000 ppm. Doable?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: ka7oei@uugate.wa7slg.ampr.ORG
Message-ID: <6278@uugate.wa7slg.ampr.org>
Source record: 106185

One of the old tricks to 'warp' a crystal is to put an inductor and
variable capacitor in series with it. Depending on how "lazy" your
crystal/oscillator combination is, you may be able to warp the
crystal quite a bit. As a Novice, I had only one 15 meter crystal and
was able to cover most of the 15 meter band with it: It's stability
was terrible near the bottom, but it worked... Typically, you'll
be able to move the crystal below it's original frequency more
than above it...

<Clint>

2258. Re: 6m XCVR project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <DpI192.C4p@cix.compulink.co.uk>
Source record: 106186

FT1000mp+Transverter
Kenwood 870+Transverter
IcomDSP 775+Transverter
Kenwood 470 (New, midi sized dsp rig)+Transverter
Kenwood ts950dx or 850dx? + Transverter
Kenwood TS 690 HF+6m
Yaesu FT736 with 6m module
Icom 706
Yaesu Ft690R2 Mono band 6m The only portable of the bunch
NRD JST125 (Have not tried but ment to be very good, liked in QST last year.

regards

Steve G7VFY

PS I have a FT736 and a FT690r2 (Great for back packing with motorcycle battery, small linear and maybe a solar panel.)

2259. Re: Best DSP Outboard Radio ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <DpI194.C5E@cix.compulink.co.uk>
Source record: 106187

Wait until the Kenwood TS-470, the new midi-sized hf box with DSP.

2260. Re: Question: Xtal Grinding Technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: Rocci <rocci@netaxs.com>
Message-ID: <316803CA.51@netaxs.com>
Source record: 106188

Robert Watson wrote:
>
> You then begin to grind the crystal,
> .....
> I was told that this will bring the frequency to close proximity, but I
> was thinking you could also use the audio filters to "narrow" the target.
>
> Has anybody tried this out at one time or another, and if so, do you have
> any further suggestions that may help me (or others)?

Modern crystals have electrodes which are plated onto both sides of
a quartz disc, making it difficult to grind or etch the quartz without
damaging the electrodes. You can move the resonance DOWN by depositing
pencil lead or some other mass on the quartz surface, but this dampens
the natural oscillation and results in a "sluggish" crystal which might
not oscillate properly in most circuits.

If you want to try the old grinding technique (it really does work), you
should get one of the war surplus FT-243 crystals, or any crystal which
uses a disassemblable pressure holder. You can remove the quartz blank
from the holder, grind it, and reassemble.

Beware!. If the grinding process is not carefully controlled, you'll end
up with uneven thickness, and the thing won't work. Best to grind a
little, try out the whole assembly in your circuit, then grind some more.

Joe
WA3CMQ

2261. Re: Plantronics Starset Headset information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: shell@callamer.com
Message-ID: <3167e5ea.2045769@news.callamer.com>
Source record: 106189
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

relliott@cyberhighway.net wrote:

>Does anybody know of any interface circuits for adapting a telephone style
>Plantronics Starset headset to radio use. I have noticed something like
>that but I can not remember where I saw it. If anyone can help please
>e-mail me with information.
>
>Thanks,
>Rich Elliott KC7CDK
>relliott@cyberhighway.net
>http://www.cyberhighway.net/~relliott/

Which Model are you trying to use? I have one that has a dynamic mic
element, and all I did was to bypass the electronics, and feed the radio,
Kenwood TS-940, direct. The output is lower than most dynamic
elements, but it works good.
73, Bill
WA6IET
shell@callamer.com

2262. Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <579.6671T606T516@nycmetro.com>
Source record: 106190

Ok this may be an incredibly dopey question but what if any are the physical differences between Transmit and Receive Crystals? IOW can a TX Crystal be used to Receive and Can a Receive Crystal Transmit? If no why?
Thanx folks.....Electronics novice am I.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2263. Fox Hunting Transmiter schematic wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: edosan@ix.netcom.com
Message-ID: <4k75vr$pf3@cloner2.ix.netcom.com>
Source record: 106191

I am looking for a schematic for a very small 2M transmiter for fox hunting. If you have one or could point me in the right direction I would appreciate it.

Thank you.

2264. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.118.000A7417@azstarnet.com>
Source record: 106192

In article <579.6671T606T516@nycmetro.com> midgard@nycmetro.com (SARUMAN) writes:
>From: midgard@nycmetro.com (SARUMAN)
>Subject: Diff between Tx and Rx Crystals?
>Date: Sun, 7 Apr 1996 16:10:38 GMT

>Ok this may be an incredibly dopey question but what if any are the physical
>differences between Transmit and Receive Crystals? IOW can a TX Crystal be
>used to Receive and Can a Receive Crystal Transmit? If no why?
>Thanx folks.....Electronics novice am I.

There is no fundamental (no pun intended) difference. Radios that use one
crystal for transmit and another for receive need the two different
frequencies to compensate for the intermediate frequency offset. In
otherwords, if the i-f is 10.7MHz, then the receive crystal will be either
10.7MHz above or below the transmit crystal frequency.

HTH,
73, Wes N7WS

2265. Re: DTMF Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: acc@pobox.com
Message-ID: <4k8t5v$580@news.mountain.net>
Source record: 106193

Patrick Millar <millarp@midwal.ca> wrote:

>Hello,

>I am looking for a DTMF decoder chip. Can anyone recommend a particular
>model?

>Patrick Millar VE3BFC
>millarp@midwal.ca

Silicon Systems makes a simple chip SSI 202 or 203
schematics can be found in 1993 ARRL handbook

2266. Help: need altimeter device for ham balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: acc@pobox.com
Message-ID: <4k8t7p$580@news.mountain.net>
Source record: 106194

Me and a few of the local hams are putting together an Amateur Balloon

We are in the fist stages of equipment design and I'm the lucky (or is that unlucky) one who gets to build the instrument package. For the first flight we are going to use a Basic Stamp (I or II not sure yet) to send telemetry and collect data from onboard sensors.

I have completed the temperature sensors and i am looking for a way to determine the altitude of the balloon (low cost needed) I have heard of a few chips or rather modules by motorola that do this. If anyone can help we would be most greatful.

Thanks Brian McClure (N8PQI)
email: acc@pobox.com
phone: 304-746-0448

2267. Re: Question: Xtal Grinding Technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4k8bsm$itg@news.calweb.com>
Source record: 106195

Rocci <rocci@netaxs.com> wrote:
>Robert Watson wrote:
>>
>> You then begin to grind the crystal,
>>
snip.....
>>
>>
>
>
>
>Modern crystals have electrodes which are plated onto both sides of
>a quartz disc, making it difficult to grind or etch the quartz without
>damaging the electrodes. You can move the resonance DOWN by depositing
>pencil lead or some other mass on the quartz surface, but this dampens
>the natural oscillation and results in a "sluggish" crystal which might
>not oscillate properly in most circuits.
>
>
snip
>
>Joe
>WA3CMQ

I have used the "loading" technique with mixed results. I have used
a pencil and the side of a piece of solder. The main problem I had
was that the vibration of the crystal caused the "loading" material
to move or fall off resulting in frequency drift. However it
worked long enough to get the proper crystal.

Bill K7NOM

2268. Re: Solar power station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: snyder@frugal.com
Message-ID: <4k8v0k$3mv@harold.frugal.com>
Source record: 106196

I have found a reasonably good source of solar panels is
Jade Mountain
pobox 4616
Boulder ,CO 80306-4616
(800) 442-1972

They have new and used stuff that would probably give you what you need. The
only bad part about this company is there 'appropriate' terminoligy.
It allways sounds so judgemental!

The bad news is the cost per watt of output goes up the smaller the pannel is!
a 60 watt used panel is $220 ($3.67/watt)
a nice portable 10 watt unit is $135, ($13.50/watt) but these size/price
ratios vary.

anyway call them and get there catalog.

In article <4k4vtm$1tbe@news.doit.wisc.edu>, bmicales@facstaff.wisc.edu (Bruce
Micales) wrote:
>Hello all,
>
>I am thinking of putting together a portable packet station for field
>and/or emergency work. One source of power would of course be
>rechargeable batteries. However, I also thought one might be able to
>use solar panels to help run the radio (13.5 DCV, 1200 mAhr),a laptop
>(12 DCV, 1.7A, and a TNC (6-25 DCV, <40 ma).
>
>Does anyone know of a place that sells solar panels? I have found a
>few but they appear a bit high. On the other hand this is my first
>attempt so all the help would be welcomed. Thank you
>
>Bruce Micales WA2DEU
>E-mail: bmicales@facstaff.wisc.edu
>Packet : WA2DEU@WD9ESU.EN53IE.WI.USA.NOAM
>

Gary Edwin Snyder Jr.
snyder@frugal.com
http://www.frugal.com/~snyder

2269. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr7.225045.24727@ke4zv.atl.ga.us>
Source record: 106197

In article midgard@nycmetro.com (SARUMAN) writes:
>Ok this may be an incredibly dopey question but what if any are the physical
>differences between Transmit and Receive Crystals? IOW can a TX Crystal be
>used to Receive and Can a Receive Crystal Transmit? If no why?

Sure, with some caveats. A crystal is a crystal, and is just a source
of a stable frequency (when used in a proper oscillator circuit). The
caveats are that the frequency *stamped* on the receive crystal may
include the IF offset of the intended receiver, IE 10.7 MHz above or
below the actual frequency of oscillation of the crystal as one example,
and that receive crystals in general can't handle as much RF current as
some transmit crystals. This latter is of vanishing importance since most
transmitters today don't require much crystal current either, but some did
in the old days. The former is the gotcha, make sure that you know the
frequency on which the crystal actually oscillates. It may not be the
frequency stamped on the case with crystals intended to be used in
receivers.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2270. Re: Silver plating PCB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4k9i8i$7k1@nadine.teleport.com>
Source record: 106198

In article <teNjULASIbZxEwAM@samwise.demon.co.uk>,
Pete McQuail <g8dcj@samwise.demon.co.uk> wrote:
>Does anyone know of a chemical method for silver plating PCBs? I
>currently use silver paint but find that this can be a bit of a pain if
>the area to be coated is large or the tracks are thin/close together. I
>know that there is a chemical method for applying tin coats to copper.
>Is there an equivalent for silver?
>Pete Mcquail, G8DCJ

I'm curious about why you want to do this. In my career as a design engineer, I've never seen a silver-plated board, just gold, tin, or tin/lead. Silver is widely used for conductors on thick-film hybrid circuits, but generally alloyed with palladium. The alloying is necessary because without it, the silver will migrate in the presence of applied D.C. (particularly in high humidity), eventually forming short-circuiting tendrils between conductors. The palladium-silver alloys I've seen are much less conductive than copper. I'd think that silver would be inferior to tin as a plating material because of its tendency to tarnish. It might also try to alloy with the underlying copper, requiring a nickel barrier, as is done with gold plating.

Roy Lewallen, W7EL

2271. Russian Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: jrybak@mesa5.Mesa.Colorado.EDU
Message-ID: <4k9je3$7d2@mesa5.mesa.colorado.edu>
Source record: 106199

[No readable article body recovered]

2272. Russian Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: jrybak@mesa5.Mesa.Colorado.EDU
Message-ID: <4k9jjr$7fq@mesa5.mesa.colorado.edu>
Source record: 106200

I need to get some replacement tubes (811A and other varieties). Is there any difference in quality between Sovtek and Svetlana?

Thanks.

2273. Atlas Digital Frequency Readout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-07 00:00:00 UTC
From: Dennis Jacobson <dej@a.crl.com>
Message-ID: <31681D6B.76CB@a.crl.com>
Source record: 106201

Hello all...

I saw at one of the local swap meets a digital readout for the
ATLAS 250. The guy wouldn't seperate it from the radio for which
I don't blame him. However, I would sure like to have one of
those units for my ATLAS. So this leads me to two questions.

#1. Does anyone out there have the DFC for the ATLAS that they
would like to sell?

#2. Does anyone know of any articles that may have been published
in QST, CQ, 73 or HR on how to build one for the ATLAS.

What I really would like is a master index on line of the
articles published in the ham mags for the last 25 years.

Anyone know of such a resource?

Thanks all...

73... Dennis Retired:
INTERNET: dej@A.crl.com Just another road kill on
AX25: N6NG@KJ6FY.#NORCAL.CA.USA.NOAM the Information Highway.

2274. fs surface mount parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: kas@wisenet.net
Message-ID: <kas-0704962059370001@w106.wisenet.net>
Source record: 106202
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

Surface mount parts for experimenters/prototypers

Motorola MRF 94llL NPN hi gain low noise small signal transistor
excellent broadband linearity with typ fT = 8 GHz.
4 pin SOT-143 package
5 / $1.00 with data sheet

Toshiba 2SC3606 NPN hi gain low noise transistor. Typical fT=7GHz, noise
figure @1GHz=1.1dB.
3pin EIAJ SC59 package; slightly larger than EIA SOT-23.
8/ $1.00 with data sheet

Surface mount 1/8 watt resistor assortment.
paper strips of 20 each of 50 different values = 1000 resistors
all parts marked with standard 3 digit code
$10.00 each assortment

Chip capacitors -- 0.1uf 50 volt ,tolerance range Z
size 1206 (3.2mm x 1.5mm) packaged on paper tape
Y5V ceramic with nickel barrier terminations
MuRata pn GRM42-605Y5V104Z50
30/$1.00

I have other chip caps but can't find my micrometer to measure size
anyway 1pf,2.7,3.3,4.7,20,22,24,30,56,75,150,180,220,270,300 are all
similar to above and are 50 volt 5% tolerance, NPO ceramic
1800pf is 10% X7R ceramic

8.2pf,11,12,100, are smaller in size 50 volt, NPO
all are 30/$1.00

shipping: $4.00 per order

e-mail or call Kim at 414-249-9895
Kim requests don't ask Kim tech questions....e-mail instead

2275. Re: How to setup an dual computerlink via radio. Is it possible ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: jjmartin@shore.net
Message-ID: <4ka50g$pc5@shore.shore.net>
Source record: 106203
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

>moritz@ipers1.e-technik.uni-stuttgart.de wrote:
>>
>> Franky Noten <Franky.Noten@ping.be> wrote:
>>
>> >I would like to setup an link between 2 computers.
>> >What's the maximum speed I can transmit on ?
>>
>> The speed of light.

Then came the term VELOCITY FACTOR. Where velocity factor, "v", is
expressed as a percentage by :

v = 100c' / c

where c' represents the speed of propogation in a particular
substance, and c is the speed of light in a perfect vacuum. Both c'
and c must be specified in the same units. -Amateur Radio Encyclopedia

-73 de wk1v

2276. List Of Stamp Applications [960408]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: cj@hth.com
Message-ID: <3168955e.0@news.buller.se>
Source record: 106204
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
_____________________________________________________ _____
_____________________________________________________// L.O.S.A //_____

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
List Of Stamp Applications Date: 960408
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

Contents

_____________________________________________

1.0 What is BASIC Stamp ?
1.1 What is L.O.S.A all about ?
1.2 How can I contribute to this list ?
1.3 Where could I find L.O.S.A ?
1.4 List of contributions.
1.5 Credits and other things.

_____________________________________________

1.0 What is BASIC Stamp ?
-------------------------

This is being written for people who have no idea of what a BASIC
Stamp is...

BASIC Stamps are small reprogrammable single board computers (SBC)
that run BASIC programs and are made by Parallax, Inc. in US. At
first glance, they may seem fairly minimal - and in fact, they are.
But with software that fully utilizes all available hardware, the
Stamps give you powerful features - without the cost of hardware.

Their low cost and simplicity make the Stamps perfect for many
prototyping and control applications. It's suitable for electronics
hobbyists as well as electronics professionals in many different
areas.

Typical application areas for BASIC Stamp's are...

- General electronics
- Home automation
- Robotics
- Mini PLC
- Education
- Prototyping
- HAM related applications
- Special effects in films
```

- Industri control
- Geological instruments
- Computer peripherals
- Scale model hobbyists

As an talent engineer and technical writer expressed it...

- BASIC Stamp is the 555 of the 90's !

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remeber it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share that's even better but it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in the L.O.S.A form on the Web-page...

http://www.hth.com/losa.html

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------
Title :
Author: Date:
E-mail: (optional)
-------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
```

Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.html

1.4 List of contributions

> = Indicates a new or updated application since last time.

001 Robo-Cat
002 Logic Rudder
003 Interfacing MAX186 8 channel 12bit A/D
004 Scrolling LED Sign
005 Tone Decoder
006 Pager
007 HexWalker Mobile Robot
008 Robo Bug
009 EXPBOT Robot controlled by Stamp
010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer

016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader
020 Telephone Card Reader
021 DTMF Decoder
022 Ion chamber radiation monitor
023 Barn Monitor
024 Dallas one-wire interface
># 025 Sculpture control
># 026 Commercial clothes dryer controler

==========
Title : Robo-Cat [# 001]
==========
Date : 950807
Author: Gustavson Guy W.
E-mail: GWGUSTAVSO@mpg.norstan.com

Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : http://www.winternet.com/~bigfoot/cat.html

Description :

My cat, Kesha, was recently diagnosed with Heptic Lipodosis. Or
"Fatty Liver", basicly what this means is that for some reason he
stoped eating and his liver started converting body to useable
sugars. The fat deposists biuld up in the liver and cause severe
liver damage. Because the liver isn't working well the cat feels
crappy and wants to eat even less. The treatment for this disease is
to run a tube down down the cats nose into his stomach, or a PEG
tube through the abomine wall into the stomach and feed the cat a
liquid diet this way.

I love my cat, but I can't be there every three hours to feed him
through the tube for a month. Something about work and deadlines and
such. So I went to a local supplus house and got a tiny motor driven
pump, a case, some switches, a micro switch, ect...

The micro switch is mounted such that the switch trips for every
rotation of the pump shaft. The stamp turns on the pump for on a
single rotation at intervels programable from the controll switches
on top. An alarm buzzer and LED flash if the pump fails to run for
any reason. The unit is programable for 9 differents deleviery rates.

Now he gets a slow continuious feeding and he seems to tolerate this
better than the 100ml feeding every three hours.

==========
Title : Logic Rudder [# 002]

==========
Date : 950812
Author: Christer Johansson
E-mail: cj@hth.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : http://www.hth.com/filelibrary/BS1-IC/

Description :

Many of the new and very realistic flight sims available today needs rudder to let you get full control. This one uses a digital pot from Xicor (X9104) and 10 other components. Connects to a standard IBM-PC game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right and to indicate when rudders move there is a red LED that lights up when you press the micro switches and to indicate center there is a green LED. If you press the both micro swithes the rudder will automaticly return to center position.

There is a trim pot to set the desired step rate from slow to very fast and the Xicor pot has 99 steps wich gives a fair resolution.

==========
Title : Interfacing MAX186 8 channel 12bit A/D [# 003]
==========
Date : 950925
Author: Helmut Fligge
E-mail: h.fligge@asco.nev.sub.de

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A

Description :

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via RS232 2400bps the stamp is asked to measure channel numbern. After conversion the result will be returned to the host computer as an ascii string (0 .. 4096). Conversion rate is about 4 measures per second.

==========
Title : Scrolling LED Sign [# 004]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the prototyping area of a Basic Stamp rev D. A scrolling alphanumeric message moves one pixel at a time, just like real scrolling LED signs, except this one only displays one full letter or portion of two letters at a time as the message moves by.

==========
Title : Tone Decoder [# 005]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Listens for telephone touchtones, displays phone numbers on LCD screen and echos them out RS-232 port. Circuitry fits in prototyping area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

==========
Title : Pager [# 006]
==========
Date : 950928
Author: Don McKenzie
E-mail: donmck@tbsa.com.au

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : http://www.labyrinth.net.au/~donmck

Description :

This program for the Basic Stamp is used to monitor 4 hardware signals. If a change takes place, (after testing for a false trigger) then a cheap 2400 baud MODEM is used to dial into a Telecom Alpha-Numeric pager. It leaves a message which consists of a 2 digit

I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110"
means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a
short period, then hanging up, the Stamp will dial your Pager and
report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user
wishes to add enchancements such as "Multiple Ring-In's" say within
a minute, for a command selection, there is plenty of program space
left.

```
=============================================================================
Title : HexWalker Mobile Robot [# 007]
=============================================================================
Date : 950929
Author: T. R. Thornton
E-mail: mandtsys@ix.netcom.com
-----------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A
-----------------------------------------------------------------------------
Description :
```

HexWalker is a six legged mobile robot that is controlled by a BASIC
Stamp or BS1-IC, and driven by three servo motors (similar to Futaba
S148). It is the simplest walking machine architecture that can walk
forward, backward, and turn left or right.

```
=============================================================================
Title : Robo Bug [# 008]
=============================================================================
Date : 951003
Author: David Novick
E-mail: dkn@cimar.me.ufl.edu
-----------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn
-----------------------------------------------------------------------------
Description :
```

Using two stamps, a robot with six legs (2 degrees of freedom each)
was able to walk and turn (at this stage, not very gracefully).

```
=============================================================================
Title : EXPBOT Robot controlled by Stamp [# 009]
=============================================================================
```

Date : 951009
Author: Marvin Green
E-mail: marvin@agora.rdrop.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it

Description :

This program allows a cool robot to move abound a room in search of light. Like a moth. Simple program changes can dramatically change the robots behavior.

==========
Title : Andrews Ever Evolving Lego Robot [# 010]
==========
Date : 951119
Author: Andrew H. Hochheimer
E-mail: softarts@ciaccess.com

Stamp model : BS2-IC
Code available: YES
Filename : N/A
URL : http://www.wincom.net/~softarts

Description :

Currently the robot can only navigate to the brightest light source in a room. It's current operation mode has four major steps: - Scan a 180 Degree Field of "Vision" taking light level readings, and determining the brightest direction of light. - Decide if it needs to turn left, right, or continue moving forward. - Check for collision with an object while moving, if a collision occurs, display the total travel distance on the display - Move forward for 1.5 Seconds and then repeat the process.

Currently I am using Two Futaba FP-S128 Servos (any RC Car Servos would work) one to sweep it's "sensors" form left to right, and one to "stear" the robot.

You can see pictures and more information on my homepage, just follow the lego robot link.

==========
Title : Factory Monitoring System [# 011]
==========
Date : 951120
Author: Paul Willemse
E-mail: pjwill@merlion.singnet.com.sg

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author

Description :

The system presently consists of 4 Basic Stamp units. Each monitors up to 5 inputs. The inputs are 'digital' (switches) and/or analog (temp, airflow, current, etc using commercial sensors). All stamps communicate the results via serial mode to a Macintosh (Yes a Mac!) where the results are graphically displayed and monitored. Alarms are set for certain conditions.

The transmission is simple, one way only. Each stamp sends the info at a 'random' interval not exceeding 2 seconds. The message format is fixed, the Mac will throw away any conflicts in case two or more stamps transmit at the same time. BTW this happens very seldom. The max time any stamp can be 'absent' from the chain before an alarm is raised is six seconds (failure, transmission collisons, etc). This is controlled by the Mac.

The 'system' is presently in beta test, the client wishes to expand up to 20 stamps. At that point we will likely use the BS1-IC or BS2-IC on custom boards located around the facility.

Code is available upon request (e-mail) partial, some is proprietory to my client.

==========
Title : Wave to the Cats/Desk Temperature [# 012]
==========
Date : 951121
Author: Paul Haas
E-mail: paulh@hamjudo.com

Stamp model : BS1-IC
Code available: Yes
Filename : See web server
URL : http://hogwild.hamjudo.com/cgi-bin/stamp

Description :

The Stamp has a serial connection to web server, a cardboard hand, a servo motor to move the hand, and a DS1620 thermostat chip to measure the temperature. The web server can request the current temperature or start the hand waving. See the web page for the source code for the temp and the web server.

It's mostly useless. The cats ignore the hand. A few people find it entertaining.

```
=========================================================================
Title : Gamer's Die Roller [# 013]
=========================================================================
Date : 951122
Author: Larry Tremblay
E-mail: ltremblay@domus.com
-------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: N/A
Filename : N/A
URL : N/A
-------------------------------------------------------------------------
Description :

The Gamer's Die roller is a little thing I am putting together as my
first Stamp Project. The Roller allows cumulative rolls of n dice up
to 256 sides, so long as the sum does not exceed 99,999,999(!)

It uses two 74HC161 4 bit counters cycling at 1MHz to draw random
numbers off of. Input is achieved via a Grayhill model 38 keypad
and a 74C922 keypad decoder. Display is on a Siemens PDSP-2111 8
character smart display (5x7 LED characters) fed by two 74HC164
serial to parallel shift registers cascaded so I can use Shiftout to
feed 16 bits of control + data off of 2 pins.

The code is very simple, the most exotic part being the random numb-
er generation. In a nutshell, it is:

Begin Loop
S = 8 bit number drawn from the counter (random)
if S < (255/N) x N (integer divide, N is number of sides on die)
exit Loop
End Loop

This gets (pseudo) random numbers whose average is not skewed
downwards by the counter's max of 256 (i.e. a 100 sided die is not
affected by the extra 56 in the count maximum)

Using gamer's dice notation, (5d6 = sum of 5 six sided dice, 3d10 =
sum of 3 ten sided dice), the user can input whatever combination
they wish, including just 'd6' for one six sider. The keypad I have
has removeable keycaps with legends, so I have 0-9 plus 'd' and '='
on them.

As noted earlier, since I am using an 8 bit counter, the maximum die
size is 256, although that could be fixed easily by sampling two,
three or more times for each die.

Anyhow, that's it. When the code is done and debugged, I'll be happy
to e-mail it to any who want it.

=========================================================================
Title : Stamp II Serial I/O [# 014]
=========================================================================
```

Date : 951128
Author: John Hansknecht
E-mail: Hansknec@cebaf.gov

Stamp model : BS2-IC
Code available: Yes
Filename : HAL01.bs2 and HAL01.bas
URL : ftp.parallaxinc.com

Description :

A bare-bones demonstation of 2 way serial communications between a
PC running Qbasic and 1 or more Stamp II's.

==========
Title : Voice and CW Fox Hunt Transmitter IDer [# 015]
==========
Date : 951221
Author: Sam Guccione
E-mail: sguccion@outland.dtcc.edu

Stamp model : Counterfeit Stamp
Code available: Yes
Filename : Revision of S. Edwards MORSE program
URL : N/A

Description :

An IDer based upon the MORSE program. Has 4 time delays as well as
a random time delay. Circuitry includes selection of a voice id
using the Radio Shack 10 voice board or the Walden bookstore 10 sec
talking gift card. This is a very simple circuit and program but was
developed by my students under my direction.

May be of interest to someone out there.

==========
Title : Lift (elevator) Controller [# 016]
==========
Date : 951225
Author: Dave Bell
E-mail: dbell@cup.portal.com

Stamp model : Faux Stamp (BASIC Stamp clone)
Code available: Yes
Filename : Upon request
URL : N/A

Description :

A simple control loop monitoring lift Call buttons (with debounce)
and Limit switches, forbidding manual control past limits, and en-

forcing a Stop before reversal of direction. This will be used in
an owner -designed and -built single story platform lift for a home.

==========
Title : Paging with the Stamp [# 017]
==========
Date : 960104
Author: Kurt Clement
E-mail: kclement@kraft.com

Stamp model : BASIC Stamp Rev. D
Code available: Yes
Filename : monitor.bas
URL : N/A

Description :

Use the Stamp to monitor several inputs, two temperature and two
contact closures in this application. When inputs go outside set
limits, dial pager and send coded message. Used to monitor power
failures and temperatures for computer and network equipment since
August 1994, running on 9 V power supply from one of the UPS units.

==========
Title : Switching Sytem [# 018]
==========
Date : 960109
Author: Alexander Avendano
E-mail: aavendan@aros.net

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

I'm almost finishing a Basic Stamp Based Switching System (Small
Phone system) which I consider very usefull for small companies that
cant'n afford other brands. This is designed with a host computer
which will have a vox-mail and all the functions like big ones to
choose. I'm using BS1-IC's for the extensions process right now.

As soon I have complete it I will give the code away for small
Intelligent Switching phone system up to 2 Lines and 4 Extensions
using the L.C.D serial circuitry for information display. I forgot
to mention that the computer (Host for many processing functions)
will be running under Windows 3.1 and Windows 95, making this way a
usefull computer not only for the phone system but for ithers
application at the office.

Please be free to send me E-mail, about any suggestion.

```
=============================================================================
Title : Door Entry Card Reader [# 019]
=============================================================================
Date : 960110
Author: Ed Buckley/J J Barbarello
E-mail: ed@milinst.demon.co.uk
-----------------------------------------------------------------------------
Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : N/A
-----------------------------------------------------------------------------
Description :

Stamp 1 based version of the Card Reader article by J J Barbello as
described in the August 1995 edition of Electronics Now. This vers-
ion uses the Stamp 1 as a local controller determining the card
number and deciding whether or not to allow door opening. Optional
serial comms back to a master controller and optional local message
readout using an LCD Backpack.

Lots of scope for further enhancement/experimentation. Circuit
schematic and listing available.

=============================================================================
Title : Telephone Card Reader [# 020]
=============================================================================
Date : 960119
Author: Francesco Volpe
E-mail: f.volpe@ee.mu.oz.au
-----------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : TELEMARK.LZH
URL : ftp://ftp.ix.de/pub/elrad/010/
-----------------------------------------------------------------------------
Description :

The BS-II is used to read a German telephone card, which is a smart
card. For more details see the German Electronic Magazine ELRAD
(http://www.ix.de/el).

The data is transfered via RS232 to any terminal program.

=============================================================================
Title : DTMF Decoder [# 021]
=============================================================================
Date : 960125
Author: Joe Altieri
E-mail: radioman@banished.com
-----------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
```

Filename : DECODE.BS2
URL : N/A

Description :

A new parallax BASIC Stamp II program for decoding a nine digit DTMF sequence of "Touch Tones" for remote activation/de-activation of any electrical appliance via Ham Radio, radio link, telephones, intercoms, etc.

==========
Title : Ion chamber radiation monitor [# 022]
==========
Date : 960125
Author: Jeffrey L. Rothman
E-mail: rothman@bnlls1.nsls.bnl.gov

Stamp model : BS1-IC Module
Code available: YES
Filename : RADMON12.BAS
URL : N/A

Description :

A Basic Stamp monitors the operation of an ion chamber radiation detector. The ion chamber and related circuitry produce a signal with a frequency proportional to the dose rate. The Stamp measures the frequency and calculates the dose rate and total integrated dose.

The results are displayed on a log scale panel meter and an LCD respectively. The dose rate is also transmitted over RS-232 to a remote PC.

A Front panel button allows the user to reset the total integrated dose. Another button allows the audio alarm to be muted at low dose rates.

==========
Title : Barn Monitor [# 023]
==========
Date : 960203
Author: Lynn A. Roth
E-mail: lynnr@hesston.edu

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author

Description :

The Barn Monitor checks the temperature in 5 rooms of a farrowing house. The temperatures are taken by DS1620 chips.

If the temperature goes outside the limit set by the farmer, the Stamp dials a pager using a 2400 baud MODEM. The same occurs if the power goes out.

==========
Title : Dallas one-wire interface [# 024]
==========
Date : 960212
Author: Daniel G. Clemmensen
E-mail: dgc@shirenet.com

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.shirenet.com/~dgc

Description :

As part of a furnace controller project, I've interfaced A Stamp II to a string of Dallas 1820 digital thermometers. The interface consists of three cheap IC's and some subroutines. A design note and a demo program are available on the web. I have successfully tested the interface with a string of twelve 1820's.

I have not yet tested it with other one-wire devices, although I will update my web site when I do.

==========
Title : Sculpture control [# 025]
==========
Date : 960323
Author: Pierre Olivier
E-mail: olipie@aei.ca

Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : N/A

Description :

I have been working with sculptors for some time doing control circuits for their works using 555 (limited), industrial controllers (expensive and hell to program) and lately Basic Stamp.

Our latest piece deals with image deconstruction: it consists of 20 vertical cylinders on which an image is wrapped. Each has a photo detector to detect "position zero", and a custom basic stamp board with a MC3479 step motor driver that drives a step motor which turns one cylinder. Each cylinder can thus have its own routine which pos-

itions it precisely (400 steps/rev motors) where we want it for any amount of time, at any speed (very interesting sonically at sub-second stepping speeds!).

The stamp outputs direction, step and enable signals to the motor driver and a ready signal to a common line. It receives signals from the aforementionned ready line, and from the optical sensor.

It would have been quite a bit more complicated, bulkyer and expensive to implement this project without the stamp.

```
=============================================================================
Title : Commercial clothes dryer controler [# 026]
=============================================================================
Date : 960401
Author: J Amy
E-mail: Kuznjack@aol.com
-----------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : N/A
-----------------------------------------------------------------------------
Description :
```

Detects drop of coin and increments time remaining register. Actuates main and heat relays. Checks temperature, and controles heat relay Periodically decriments time remaining register. Provides cool down cycle in last four minits.

Replaces original controler which costs several hundred dollars, and is not reliable.

```
=============================================================================
```

1.5 Credits and other things

Credits should go to all of you who makes this list possible I hope it suffices to say "Thank you to all who have contributed to L.O.S.A - we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support this great products !

If there is anything you think I've missed (or spelled wrong <g>) I would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@hth.com

Stay tuned,

/Christer

```
-----------------------------------------------------------------------------
```

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and PBASIC are trademarks of Parallax, Inc. PIC is a registered
trademark of Microchip Technology, Inc. Other brand and product names
are trademarks or registered trademarks of their respective holders.

-=-=-=

2277. HAM SHOP - VIRTUAL MARKET

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: Adriano Sgarbi <adr@datas.it>
Message-ID: <3168DACC.39DF@datas.it>
Source record: 106205

NEW !!

HAM SHOP virtual market for radio amateur.

NO commercial site !!
only for private announce !!

visit it at :

http://www.datas.it/~arg/

Advanced Radio Group

e-mail : arg@datas.it

2278. YAESU FT-200 Help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: George Harris <103021.3555@CompuServe.COM>
Message-ID: <4kb3r1neu3@mhafc.production.compuserve.com>
Source record: 106206
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb

Hi Everyone,
My Friend has an Yaesu Ft-200 Radio and is looking for a
possible modification to include 11 meter capability. Does anyone
know of such a modification. All answers are appreciated.

Thanks!!!!!!
73,
George

--
Don't do anything that I wouldn't, At least don't get CAUGHT!!!!

2279. Re: Atlas Digital Frequency Readout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4kb4na$oap@newsgate.sps.mot.com>
Source record: 106207

Communication Concepts (I think) also made a universal digital readout that worked with the Atlas. This was advertised in the usual magazines a few years ago and may still be available.

I got one in about '91 for my Atlas 210 and was pleased with it, even though it cost nearly as much as the rig did (used). It's all TTL and could be duplicated in wire wrap.

Of course, it's more cool to have the Atlas digital readout....
Jim N6OTQ

2280. Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: Christopher Comeaux <impulse@oak.liii.com>
Message-ID: <Pine.SUN.3.91.960408130307.10621A-100000@oak.liii.com>
Source record: 106208

I am wondering about the feasibility of the following scenario: A person gets his boat wrecked on an uninhabited island nearby Hawaii. He has no electricity, but lots of wire from his smashed up boat. He uses it to make a directional antenna that is pointed toward Oahu, and tuned to the FM broadcast band. Then he keys in SOS by shorting the antenna.
I am thinking this analogous to using a mirror to flash code using the sun's light. In this case, interference should be created either at the FM frequencies, or if the person was able to construct a diode, multiples thereof.
My question is, could this produce a detectable effect which might have the slimmest chance of getting the person rescued; or can anyone think of another possible example of "powerless communication"?

CC/Impulse/N2QMU

2281. Re: Direct-modulated AM with solid state final? (thanks)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: Monty Wilson <mwilson@bangate.compaq.com>
Message-ID: <DpK231.B4G@twisto.eng.hou.compaq.com>
Source record: 106209

Many thanks to Gary, Jack, Dana, Mike, Tom, and Grant who have talked me out of hacking on my radio, and reminded me of some electronics that I should have remembered all along. Here's what I've learned:

It is usually improper adjustment, rather than IMD from nonlinearity, that causes low-level-modulated AM to sound bad.

High-level modulation of a transistor final is much more complicated than just lifting a leg of a transistor and sticking a transformer in the circuit.

If I ever want to try this, I'm definitely going to start with a 50W CB pre-driver and hack on THAT, rather than mess up my main rig.

When ten meters comes back and I want to get on AM again, I'm getting a peak-reading wattmeter so I can adjust my transmitter properly.

There are still some folks out there knowledgeable enough about AM and nice enough to lend a hand.

Thanks again and 73

--
.....Monty.
mwilson@bangate.compaq.com

2282. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4kblq2$rg6@hpcvsnz.cv.hp.com>
Source record: 106210

Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
: The former is the gotcha, make sure that you know the
: frequency on which the crystal actually oscillates. It may not be the
: frequency stamped on the case with crystals intended to be used in
: receivers.

Of course, the same is true of crystals stamped with the transmitter frequency: the crystal likely will oscillate on a fraction (like 1/9 or 1/12) of the actual transmitter output frequency; in some cases there is even an IF offset on transmit as well as on receive (e.g., a crystal-controlled HF SSB transmitter). (Though in that case, the rig would likely use one crystal for both receive and transmit.) And to further complicate things, often both the receive and transmit crystals will be stamped with a "channel number" instead of an actual frequency. It's not only the CB band that's channelized.

If you are lucky, the crystal may be stamped with _both_ the frequency of oscillation and the radio input/output frequency.

--
Cheers,
Tom
tomb@lsid.hp.com

2283. FS: misc. 2meter equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: j.markstrom@ieee.org
Message-ID: <4kbodh$o3q@daily-planet.execpc.com>
Source record: 106211

In article <3162396E.975@cc.memphis.edu>, William Leonard
<WRLEONARD@cc.memphis.edu
>MFJ SWR/power/field strenght meter.....make an offer
>
10 bucks?
kb9mma
jim

2284. Six Meter Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: Dave Ward <dave.ward@nt.com>
Message-ID: <31696059.41C67EA6@nt.com>
Source record: 106212

A few days ago there was a message posted that indicated a design for a 6 meter transceiver had been described in the Sept. 1995 issue of QEX. The author of the article was Zack Lau.

I would be interested in looking at the article and possibly building the transceiver if it more or less meets my requirements and is within my capability. My requirements are CW and SSB, power output in the 5 - 20 watt range, all solid state and readily available parts. A commercially available PCB would be nice.

Does anyone know where I can get a reprint? Is it in the 1996 ARRL Handbook (which I plan to purchase)?

Thanks.

Dave Ward VE3BIP

2285. HAM III/CD44 (CDE) Rotor Problems, help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: pablotwa@pacificnet.net
Message-ID: <4kbprb$drp@news2.cais.com>
Source record: 106213

Hi, and thank you for reading this

I have a HAM III/CD44 (CDE) rotor and controller, the rotor works really well, however the heading indicator stopped working yesterday, it just won't "track" anymore and the needle is not physically stuck, I fear that I may have misplaced a wire and I don't have the schematic/owners manual. Does anybody out there know how to find out how the wires are connected ?, any troubleshooting techniques for the meter?, could anybody send me the text or the GIF of the Schematic (or both)?, where can I get an old owner's manual?/ book?

Any help appreciated, thanks in advanced

Pablo Lewin
WA6RSV
please reply through e-mail to pablotwa@pacificnet.net

2286. Rotor problem, please help :-(

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: pablotwa@pacificnet.net
Message-ID: <4kbqs3$drp@news2.cais.com>
Source record: 106214

Hi, and thank you for reading this

I have a HAM III/CD44 (CDE) rotor and controller, the rotor works really well, however the heading indicator stopped working yesterday, it just won't "track" anymore and the needle is not physically stuck, I fear that I may have misplaced a wire and I don't have the schematic/owners manual. Does anybody out there know how to find out how the wires are connected ?, any troubleshooting techniques for the meter?, could anybody send me the text or the GIF of the Schematic (or both)?, where can I get an old owner's manual?/ book?

Any help appreciated, thanks in advanced

Pablo Lewin
WA6RSV
please reply through e-mail to pablotwa@pacificnet.net

2287. Error in Motorola RF Databook?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4kbqlr$bu0@globe.indirect.com>
Source record: 106215

I know a lot of Motorola guys read this group, and this question is directed mainly to them. In my 1983 copy of the Motorola RF Device Data book, the data sheet for the MRF497 transistor contains a test circuit and PC board for what would be a whopping good start on a 35-45 watt 6M power amp. (Page 4-126 of that edition of the book.)

The problem is that the schematic doesn't seem to match the PC board or the photo of the assembled test fixture. The photo shows four Arco trimcaps, but the circuit calls out only three. The coils seem in the wrong places on the circuit board vis a vis the schematic, and I've started to wonder if either the schematic or the test fixture PCB and photo are wrong for that data sheet. Does anybody have any clue here?

As RF Parts sells the MRF497 for $19.95, it would be pretty easy to build the amp, if I knew I could trust both the circuit and the PCB.

Thanks in advance for any help here.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

2288. Re: Silver plating PCB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: Pete McQuail <g8dcj@samwise.demon.co.uk>
Message-ID: <$KsrDDAboXaxEwau@samwise.demon.co.uk>
Source record: 106216

In article <4k9i8i$7k1@nadine.teleport.com>, Roy Lewallen
<w7el@teleport.com> writes
>In article <teNjULASIbZxEwAM@samwise.demon.co.uk>,
> Pete McQuail <g8dcj@samwise.demon.co.uk> wrote:
>>Does anyone know of a chemical method for silver plating PCBs? I
>>currently use silver paint but find that this can be a bit of a pain if
>>the area to be coated is large or the tracks are thin/close together. I
>>know that there is a chemical method for applying tin coats to copper.
>>Is there an equivalent for silver?
>>Pete Mcquail, G8DCJ
>
>I'm curious about why you want to do this. In my career as a design
>engineer, I've never seen a silver-plated board, just gold, tin, or
>tin/lead. Silver is widely used for conductors on thick-film hybrid
>circuits, but generally alloyed with palladium. The alloying is necessary
>because without it, the silver will migrate in the presence of applied
>D.C. (particularly in high humidity), eventually forming short-circuiting
>tendrils between conductors. The palladium-silver alloys I've seen are much
>less conductive than copper. I'd think that silver would be inferior to tin
>as a plating material because of its tendency to tarnish. It might also try
>to alloy with the underlying copper, requiring a nickel barrier, as is done
>with gold plating.
>
>Roy Lewallen, W7EL
>
>
The objective is to reduce losses and improve overall efficiency in
VHF/UHF RF circuits. As I understand it the silver layer should reduce
losses by providing a better (than copper) conductor for the 'skin
effect' currents at these frequencies. I assume that this is why silver
plated wire is recomended in these RF circuits. Obviously gold would
provide an even better conductor but my finances do not run to providing
gold plating services for one off type runs. I suspect also that a
permit would be required here in the UK for such activities.
Would not the problems of surface corrosion etc be reduced or even
eliminated by the use of a non-conductive varnish?
Pete Mcquail, G8DCJ

2289. Source for parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9603088290.AA829002425@mails.imed.com>
Source record: 106217

I saw something about this place a while back on ham-homebrew but had no opportunity to get there until last Friday.

The place is City Electronics in Bellaire (Houston). He is, unfortunately, only open 9 to 5 Mon-Fri. He has a phone (713-663-6066) and does MC/Visa and shipping.

He has fun stuff like high wattage pots and tube sockets. He also has the more modern stuff like toroids (a *really* good selection), a good selection of things like Plate chokes for BA rigs, and miniature pots for things like your HT. One other thing he has is a good assortment of knobs which might be of interest to the BA folk. He might also be a source for BA transformers.

The prices were quite reasonable. A lot of stuff was much less Electronics Part Outlet here in Webster.

He even has speaker grill cloth which I hadn't seen anywhere in *years*. (each of my 3 children has, at the age of 18 months, destroyed a speaker).

all in all a good source for some of the off the wall stuff.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood, TX

2290. Re: 6m XCVR project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4kbsc7$dmt@globe.indirect.com>
Source record: 106218

emeb@indirect.com (Eric M. Brombaugh) wrote:

>I've recently become interested in 6m operation, and have started a small
>project to build a 6m FM Transceiver. I'm basing the whole thing on a
>bunch of Motorola parts which were originally intended for cordless phones.

>I started with the reciever, based on an MC3362 Dual Conversion FM reciever.
>It looks pretty good on paper, and overall it works pretty well. I use an
>MC145162 PLL chip to lock the first LO, and the 10.245 2nd LO as the input
>to the reference divider.

>As it stands right now, the thing has a sensitivity of about -100 dBm. This
>is about 20 dB off of what it should be able to do, and I think I know why:
>Looking at the 1st LO on a spectrum analyzer, it is REALLY messy. I have
>tried all the common solutions to phase noise in PLLs - wider loop bandwidth,
>regulation of the Phase Detector and VCO supplies, boosting the VCO output
>levels into the feedback divider, but no improvments yet.

For about two years now, I've been working with Kent Ogletree KD6NHP
to produce a series of 6M modules based on Motorola parts. We've been
in no particular hurry and haven't published anything yet, but the
first piece will be presented in the next HAMBREW magazine. It's a
cheap 1W final for 6M FM. It's the final amp portion of a project
called the Scanner Companion, which is an extremely simple
single-channel NBFM transmitter with antenna and power switching,
designed to hook into any scanner covering the 6M ban. The scanner
plus the Companion form a complete single-channel transceiver. The
Companion should be in an upcoming issue of HAMBREW.

The next generation, which we're calling the 96er (a Nineties Sixer,
anybody get the reference?) is a 4-channel complete NBFM transceiver
including receiver, with MCW for code practice. The power output is
unclear and depends on what sort of final amp we perfect in the next
couple of months. I don't know where it will be published yet, nor
when it'll be finished.

After that we're working on Deep Six, a DX-quality multimode
synthesized 6M radio. The nature of the synthesizer is a BIG issue,
and we're having similar difficulties. Kent is playing with DDS
schemes along the line of some of the things published in QST over the
past year, most recently in March.

One insight that might be useful is that the MC3362 was intended for
cordless phones, not killer ham gear, and it probably works as well as
it needs to. You might experiment with the MC13135, which is the
MC3362's improved successor, and available for $7.95 from DC

Electronics here in Scottsdale. We have a 4-channel crystal-controlled receiver underway using that chip, which is a considerable improvement in many ways over the 3362, which is not being manufactured anymore as best we know.

Another interesting notion I had is to use the MC145166 cordless phone dual-loop synth, which provides two groups of ten channels at 46 and 49 Mhz, with only a single 10.24 Mhz crystal. My calculations show that by replacing the 10.24Mhz crystal with one of the common 11.0592 Mhz crystals, the divide values on ROM inside the 145166 move up entirely within the 6M band. The big snag is that the first IF moves up from 10.7 to 11 something as well, making the canonical crystal filters unusable. But an LC filter for the first IF is not unthinkable, and I'm going to see if the common 10.7 IF cans have enough tuning slop to get up that high. Two of those back to back with some impedence matching should give enough selectivity for the first IF unless your in downtown LA or somewhere. Out here as with most of the country, 6M is pretty dead.

What you'd have then, basically, is a cordless phone on the 6M band, with however much power you want to hang on the end of it.

Good luck with your project. I'd certainly be interested in hearing from other people who are playing around with Motorola's terrific 49Mhz parts and RF finals.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

2291. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4kbtj9$ehc@globe.indirect.com>
Source record: 106219

midgard@nycmetro.com (SARUMAN) wrote:

>Ok this may be an incredibly dopey question but what if any are the physical
>differences between Transmit and Receive Crystals? IOW can a TX Crystal be
>used to Receive and Can a Receive Crystal Transmit? If no why?
>Thanx folks.....Electronics novice am I.

Not so dopey at all. Transmit crystals operate on the frequency that eventually gets out of the antenna, or some submultiple of that frequency. For example, a 17.5 Mhz crystal can generate RF at 17.5 Mhz, or you can triple the frequency to 52.5Mhz to operate on 6 meters. (You can double it, or multiply it by some other integral value as well.)

Receive crystals do NOT work on the transmit frequency. They are offset by a certain frequency to facilitate mixing with the incoming receive signal from the antenna, and conversion down to an intermediate frequency for amplification and eventually detection. In most VHF FM work, the receive crystal is offset from the transmit frequency by 10.7 Mhz. When you mix that offset crystal frequency with incoming signals, you get (along with some other combinations) a difference frequency of 10.7 Mhz. This frequency is passed through a narrow bandwidth filter that passes 10.7 Mhz signals and blocks all others. On the output of that filter you have your desired receiver signal, and nothing else. (All of this is an ideal case, of course; there's always "slop" in systems like this.)

An example: My 6M receiver uses a receive crystal with a frequency of 41.825. (52.525 - 10.7.) In the first mixer, this 41.825 Mhz frequency is mixed with incoming signals from the antenna, with the result that the signals coming in at 52.525 (the 6M calling frequency) appear at the output of the mixer at 10.7 Mhz. This 10.7 Mhz mixer output is then filtered, processed further, and detected, allowing me to receive on 52.525 Mhz.

So receive and transmit crystals do not operate on the same frequencies and are thus NOT interchangeable. A transmit crystal may be used in a receiver in some cases, but it will NOT receive the frequency stamped on it, but at some offset from that frequency, probably 10.7 Mhz up or down. (Other offsets in common use are 455 Khz and 262 Khz, but generally not in crystal-controlled receivers.)

Hope this helps some. Best way to understand this stuff is to build some of it yourself!

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

2292. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <4kbr9l$i51@vista.hevanet.com>
Source record: 106220

Can't help with the printer, but most any flatbed plotter will work. Just put resist ink in the pen and plot the board. Be careful that the plot is exactly 1-1 or things won't fit. Most CAD programs have a means to calibrate the plot dimensions. I use a Tektronix 4662. Had to write a translator to take HPGL and convert it to TEK codes. Have used AutoCad and PADS-PCB.
miker

Mike Colley <103650.1720@CompuServe.COM> wrote:

>I want to find a way to use a PC printer to print directly on
>printed circuit board raw stock for the purpose of making
>quantity 1 or two boards. Is there a printer not expensive (read
><$600) that can do that? I don't want to mess with several photo
>steps if I can eliminate that.
>

2293. AD7008 chips available

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: c_sieg@conknet.com
Message-ID: <NEWTNews.9252.828979736.c_sieg@PIEXX.conknet.com>
Source record: 106221

Hi Folks,
I was able to snag a dozen AD7008JP-50 DDS chips from someone elses allocation. If you need one, or are interrested in a prototype board for this DDS let me know.

73's

Chris (WA3LDI)
e-mail c_sieg@conknet.com

2294. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <354.6672T954T1065@nycmetro.com>
Source record: 106222

Thanx for the info on Crystals

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2295. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <1714.6672T955T1289@nycmetro.com>
Source record: 106223

>In article midgard@nycmetro.com (SARUMAN) writes:
>>Ok this may be an incredibly dopey question but what if any are the physical
>>differences between Transmit and Receive Crystals? IOW can a TX Crystal be
>>used to Receive and Can a Receive Crystal Transmit? If no why?

>Sure, with some caveats. A crystal is a crystal, and is just a source
>of a stable frequency (when used in a proper oscillator circuit). The
>caveats are that the frequency *stamped* on the receive crystal may
>include the IF offset of the intended receiver, IE 10.7 MHz above or
>below the actual frequency of oscillation of the crystal as one example,
>and that receive crystals in general can't handle as much RF current as
>some transmit crystals. This latter is of vanishing importance since most
>transmitters today don't require much crystal current either, but some did
>in the old days. The former is the gotcha, make sure that you know the
>frequency on which the crystal actually oscillates. It may not be the
>frequency stamped on the case with crystals intended to be used in
>receivers.

>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp
>addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |
Thanx Gary.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2296. Re: Solar power station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: Ken Burtchaell <kburt@telis.org>
Message-ID: <4kc7gg$e7e@mentor.telis.org>
Source record: 106224

There is an outfit in Mass that advertizes in Nuts and Volts 73 Ken
W6GHV

2297. Re: HF SSB Selective Call

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-08 00:00:00 UTC
From: Costas Spanos <spanos@eecs.berkeley.edu>
Message-ID: <3169A55B.2781E494@eecs.berkeley.edu>
Source record: 106225

Gustavo D. Leizerovich wrote:
>
> HF-SSB Selective Call Units.

I have been using touch tone decoders for awhile, but these need
a carrier, so they only work on AM or FM modes. I am curious about SSB
selective calling, so if you have any additional information, I would
appreciate it!

Costas - KE6SYN

2298. Help with older FT-530?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: kd4geu@aol.com
Message-ID: <4kd6b3$k5r@newsbf02.news.aol.com>
Source record: 106129

Hello:
I have an older Yaesu FT-530 that's about 3 years old
and its one that only took the solder pad 13 mod. My question
is that it will only transmit up to about 456.000mHz but at
that freq it flutters at keyup, its quite about 454.000mHz.

Does anyone have any suggestions to get the unit to
transmit up to 470.000mHz. I did the same mod on a friend's
530 and his will transmit up around 470.000 to my jealously.

I have permission to use a 460 business band repeater,
and would like to be able to do so with the 530.

I think the 530 is a excellent radio and hate to see them
discontinue it. Any help with my mod will be appreciated.

Thanks for reading this!
KD4GEU@AOL.COM

2299. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: davidL@sisl.co.uk
Message-ID: <4kddto$f4f@news.bt.net>
Source record: 106130

In article <4k2b93$m1a$1@mhafn.production.compuserve.com>, Mike Colley
<103650.1720@CompuServe.COM> says:
>
>Sorry if this is a repeating question, if it is, then flame me by
>e-mail, I'm new here.
>
>I want to find a way to use a PC printer to print directly on
>printed circuit board raw stock for the purpose of making
>quantity 1 or two boards. Is there a printer not expensive (read
><$600) that can do that? I don't want to mess with several photo
>steps if I can eliminate that.
>
I do my boards by printing with a laser onto mylar film, the stuff
people used to do drafting on. It makes a big difference having a
high resolution laser. 600dpi works very well. Print it out so that
the toner side will be against the board and expose to the UV to cure
the resist. It seems to work very well and is sharp enough to make
surface mount boards with.

Lyndon

2300. Re: Help: need altimeter device for ham balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4kd70m$a0q@news.onramp.net>
Source record: 106131

>I have completed the temperature sensors and i am looking for a
>way to determine the altitude of the balloon (low cost needed)

I know you said "Low Cost" but a small GPS board adds a lot of
interest to a balloon project and the altitude is a free extra .

Just get a GPS board that is not software limited to less
than 60,000 Ft. (the TAPR GPS board is about $150 but has the
60,000 ft limit)

73

2301. Re: List Of Stamp Applications [960408]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4kdivc$pv6@morgan.vf.mmc.com>
Source record: 106132

Tom,

I tried the URL's listed and also got an error message.

I then shortened the URL to http://www.hth.com/ and got the High Tech Horizon's On-Line Catalog. Unfortunately it is only in Swedish.

73, Harry, W3IIT

2302. All band antenna.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: mthompson@cyberus.ca
Message-ID: <4kcmk0$s41@cybernews.cyberus.ca>
Source record: 106133

Does anyone have any suggestions on how to make an all band antenna. I presumed the best would be a discone, its will be used for receiving only.

2303. Can't catch me

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: russ.wuertz@spacecoast-bbs.com
Message-ID: <8BE5228.009100120D.uuout@spacecoast-bbs.com>
Source record: 106134

Russell R. Wuertz
1481 N. US1 lot 5
Titusville, FL. 32796
Voice/Fax 407-267-0353

Oct, 19, 1995

THIS IS THE DRUG (MEDICATION) PRESCRIBED FOR "BASIC PARINOIA".
ITS SUPPOSED TO BLOCK TV AND RADIO FROM STEALING A VIEWERS
THOUGHTS. IT DOES NOT SEEM TO WORK AT ALL. THEY CONDITION
CONTINUES AND THEY USED THE "DRUGGED" THOUGHTS.

THORAZINE
^^^^^^^^^
USES: Treatment of severe anxiety, serious mental disorders,
nausea and vomiting;

TAKE:

FOOD-DRUG INTERACTION: May take on empty stomach or with food/
milk. Do not take with caffeine (Coffee, tea, cola, chocolate)
May increase appetite. If constipation occurs use high fibre/
brand foods. Use foods rich in riboflavin (vitamin B3) or
multiple vitamin supplement.

Cautions: Inform physician if allergic to other major tranquilizers
if taking sedatives, antacids, anti-epileptic drugs, or Ismelin,
or if you have a bone marrow disorder, glaucoma, heart disease, an
impaired liver or an enlarged prostate gland. Avoid during
pregnancy if possible. DO NOT DRIVE if drowsiness, dizziness or
blurred vision occurs. Avoid use of ALCOHOL. Avoid excessive sun
(skin sensitivity). Report for tests as directed. Take full
prescribed course with or without food. DO NOT STOP TAKING
SUDDENLY.

SIDE EFFECTS: MUSCLE SPASMS, TREMORS, INVOLUNTARY MOVEMENTS,
FEVER, SORE THROAT, YELLOW LIVER, JAUNDICE, FAINTING, Drowsiness,
dizziness, blurred vision, fast heart beat, nasal congestion,
swelling of breast tissue, difficult urination, constipation, rash,
discoloration of urine.
THORAZINE CAUSES IMPOTENCE.

This drug causes a person to feel like he wants to jump out
of his skin. Sleeplessness, and loss of sex drive and sensations.
Effects of swelled tounge, and rocking back and forth. Stiffness
of body.

Thoughts are being robbed and broadcast through time
as well as persons all around the Country HEARING what we think.
When they ALL KOOK, and go on a rampage this DRUG is administered.

If a Radar Jammer would do the same thing... why can't we
get some attention, and get one?

2304. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <4kds9s$g3m@usenet.srv.cis.pitt.edu>
Source record: 106135

In Article '<4k2b93$m1a$1@mhafn.production.compuserve.com>', through puissant locution, '103650.1720@CompuServe.COM' soliloquized:
>I want to find a way to use a PC printer to print directly on
>printed circuit board raw stock for the purpose of making
>quantity 1 or two boards. Is there a printer not expensive (read
><$600) that can do that? I don't want to mess with several photo
>steps if I can eliminate that.
[zap]

Greetings. For those looking for a way, there are really three pointers: (+ one for front panel jobs)

1) See the PCB FAQ, I keep a copy at URL:
http://www.paranoia.com/~filipg/HTML/FAQ/BODY/F_PCBfaq.html

2) I used to be into doing this at home, so I have a Home PCB faq at URL: (see Press-n-Peel - best stuff!)
http://www.paranoia.com/~filipg/HTML/FAQ/BODY/F_Home_PCB.html

3) My boards are 2 layer and lotsa plated holes so I have them done by hobbiest-friendly PCB places, a dated list at URL:
http://www.paranoia.com/~filipg/HTML/FAQ/BODY/F_Commercial_PCB.html

4) For those who want to try their hand at a fron panel as well, there is a Decals FAQ at URL:
http://www.paranoia.com/~filipg/HTML/FAQ/BODY/F_Decals.html

Take care.

P.S. Now that the Repair pages are in good shape, see URL:
http://www.paranoia.com/~filipg/HTML/REPAIR/
I will be reworking the above. Lotsa work. Input welcome!
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/| Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

2305. Re: Help: need altimeter device for ham balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <4kdt83$g8f@usenet.srv.cis.pitt.edu>
Source record: 106136

In Article '<4k8t7p$580@news.mountain.net>', through puissant locution, 'acc@pobox.com' soliloquized:
>Me and a few of the local hams are putting together an Amateur Balloon
(A few local hams and I... :-)
>We are in the fist stages of equipment design and I'm the lucky (or is
>that unlucky) one who gets to build the instrument package. For the
>first flight we are going to use a Basic Stamp (I or II not sure yet)
>to send telemetry and collect data from onboard sensors.
[zap]

Greetings. See URL:

http://www.paranoia.com/~filipg/HTML/RC/F_Altim.html

comes with parts list and schematics. It's by Paolo Zini and
you will find all info in the URL.

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/| Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

2306. Re: List Of Stamp Applications [960408]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: filip@alpha.smi.med.pitt.edu
Message-ID: <4kdtf4$g96@usenet.srv.cis.pitt.edu>
Source record: 106137

In Article '<4kdivc$pv6@morgan.vf.mmc.com>', through puissant locution,
'hbrown@ew0203.resd' soliloquized:
>I tried the URL's listed and also got an error message.
>I then shortened the URL to http://www.hth.com/ and got the High Tech
>Horizon's On-Line Catalog. Unfortunately it is only in Swedish.

Greetings. The other thing to try in this situation is for the
use of Micro$oft braindeath: 8.3...

http://www.hth.com/losa.htm
|Missing 'l'

WORKS. Which means they run Dos or Windoze. Poor people.

Take care.
--
+-->Filip "I'll buy a vowel" Gieszczykiewicz | E-mail: filipg@paranoia.com
| http://www.paranoia.com/~filipg/| Sci.Electronics, RC, Misc FAQs + MORE!
| Enjoy your job, work within the law, make lots of money : Choose any two.
| I think for myself. I listen. I make decisions. I speak what I believe.

2307. Re: Help: need altimeter device for ham balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DpLpvz.53u@ncifcrf.gov>
Source record: 106138

In article <4k8t7p$580@news.mountain.net> acc@pobox.com (Brian) writes:
>Me and a few of the local hams are putting together an Amateur Balloon
>
>We are in the fist stages of equipment design and I'm the lucky (or is
>that unlucky) one who gets to build the instrument package. For the
>first flight we are going to use a Basic Stamp (I or II not sure yet)
>to send telemetry and collect data from onboard sensors.
>
>I have completed the temperature sensors and i am looking for a way to
>determine the altitude of the balloon (low cost needed) I have heard
>of a few chips or rather modules by motorola that do this. If anyone
>can help we would be most greatful.
>
>
>Thanks Brian McClure (N8PQI)
>email: acc@pobox.com
>phone: 304-746-0448
>
>

Radiosondes are available sometimes surplus and they have a nice barometer
with a wiper arm on a variable resistor. Mine cost $5 for the whole
radiosonde at a ham fest. I guess you could start with Surplus
of Nebraska, or go to Dayton.

Joe NA3T
mack@ncifcrf.gov

2308. QRP Newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: mart@bga.com
Message-ID: <4ke1od$1da8@news3.realtime.net>
Source record: 106139

Is this the best newsgroup to monitor for QRP info? I'm just getting into some of the kit built stuff and would like to monitor QRP related info...

I just built the NorCal 40A kit and like it, but would like to hear opinions from more experienced folks (since this is my first kit, I don't have a large range of experience to draw on).

Also, since the kit is so small, I'd love to get info and hear discussions about small, low power, antenna tuners and power meters (maybe even small enough to fit inside the NorCal 40A case??? [2.5 x 4.5 x 4.5 approx half occupied already]). Is an antenna tuner really needed anyway if I use a 40 m dipole?

Tnx,

Marti Sawyer

2309. Re: In theory only.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: sshumway@ix.netcom.com
Message-ID: <4kcirk$fgc@dfw-ixnews4.ix.netcom.com>
Source record: 106140

In <4jp3p2$f4p@crash.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
>
>Post / CC by Mail
>
> timelord@one.net (Timothy R. Linde) wrote:
>
>>Does anybody know of something that will broadcast only 10-20 feet
>>yet over ride an amplifier with a squeel of chirp or something.?
>>I ask this on part of a couple who can't stand drive by's with loud
>>car stereos.
>
>You could probably build a jammer for the entire FM band, but that
>won't do much to a cassette deck or CD player.
>
>I once had a friend who got so frustrated with people zooming through
>his neighborhood, making it unsafe for kids to play, that one day he
>threw a rock through a car's side window.
>
>The driver got out of the car swearing like crazy and started towards
>the guy, who promptly walked into his garage and reemerged with a 12
>gauge. End of argument.
>
>Maybe your neighborhood should consider installing gates to control
>traffic flow?
>

I understand than an atomic bomb will produce a LARGE electromagnetic pulse which can "mess up" most radio communications gear (likely including cassets, CD players, computers, CB radios <grin>...you name it).

This may also slow down traffic in you neighborhood.

73 de N8SHP

Steve Shumway
sshumway@ix.netcom.com

2310. Re: Direct-modulated AM with solid state final? (thanks)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr9.163413.3547@ke4zv.atl.ga.us>
Source record: 106141

In article <DpK231.B4G@twisto.eng.hou.compaq.com> Monty Wilson
<mwilson@bangate.compaq.com> writes:
>Many thanks to Gary, Jack, Dana, Mike, Tom, and Grant who have talked
>me out of hacking on my radio, and reminded me of some electronics
>that I should have remembered all along. Here's what I've learned:
>
>It is usually improper adjustment, rather than IMD from nonlinearity,
>that causes low-level-modulated AM to sound bad.

It *can* be IMD in the linear amplifier too, however. The linearity
requirement for acceptable sounding SSB is less than that for acceptable
sounding AM. And phase distortion of an SSB signal is almost inaudible,
but it is *horrible* with AM because the recovered audio is a product
of both sidebands and the carrier. If the sidebands have differential
phase, it will be blatently obvious in the recovered audio. You've heard
this, it is called selective fading when the ionosphere does it, it's
just called bad audio when the linear amplifier does it.

Linear amps *can* be linear enough, but you can't *assume* that they
will be just because they work acceptably for SSB.

>High-level modulation of a transistor final is much more complicated
>than just lifting a leg of a transistor and sticking a transformer
>in the circuit.

Yep, that's true, but it's not *that* much more complicated.

>If I ever want to try this, I'm definitely going to start with a 50W
>CB pre-driver and hack on THAT, rather than mess up my main rig.

Ugh. You *can* just use your ham rig in CW mode with reduced carrier
output to drive an external class C stage that you "plate" modulate.
Actually today I wouldn't do that. I'd run the external stage Class D,
and vary the switching duty cycle to modulate it. That's the way some
of the modern broadcast transmitters do it. Lots more efficient, and
sounds clean too if you do it right, IE switching repetition rate well
above the Shannon limit and a reconstruction filter on the output.

>When ten meters comes back and I want to get on AM again, I'm getting
>a peak-reading wattmeter so I can adjust my transmitter properly.

Wrong tool. You need a modulation monitor scope. Any old oscilloscope
that lets you drive both the horizontal and vertical plates will do.

>There are still some folks out there knowledgeable enough about AM and
>nice enough to lend a hand.

Some of us still have to do it for a living. :-(

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2311. Re: Silver plating PCB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ke5i8$r79@nadine.teleport.com>
Source record: 106142

In article <$KsrDDAboXaxEwau@samwise.demon.co.uk>,
Pete McQuail <g8dcj@samwise.demon.co.uk> wrote:

>The objective is to reduce losses and improve overall efficiency in
>VHF/UHF RF circuits. As I understand it the silver layer should reduce
>losses by providing a better (than copper) conductor for the 'skin
>effect' currents at these frequencies. I assume that this is why silver
>plated wire is recomended in these RF circuits. Obviously gold would
>provide an even better conductor but my finances do not run to providing
>gold plating services for one off type runs. I suspect also that a
>permit would be required here in the UK for such activities.
>Would not the problems of surface corrosion etc be reduced or even
>eliminated by the use of a non-conductive varnish?
>Pete Mcquail, G8DCJ

The difference between the conductivity of copper and silver isn't large,
and it's less at radio frequencies due to skin effect. (The skin depth in
copper is greater than in silver, reducing the advantage.) There was quite
a discussion here recently about silver-plating cavities which addressed
this in detail.

When you have a conductor over a ground plane, e.g., microstrip
construction, nearly all the current is flowing on the bottom of the
conductor and the top of the ground plane, which you won't be able to plate
anyway.

73,
Roy Lewallen, W7EL

2312. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr9.165639.3746@ke4zv.atl.ga.us>
Source record: 106143

In article <Pine.SUN.3.91.960408130307.10621A-100000@oak.liii.com> Christopher Comeaux <impulse@oak.liii.com> writes:
> I am wondering about the feasibility of the following scenario: A
>person gets his boat wrecked on an uninhabited island nearby Hawaii.
>He has no electricity, but lots of wire from his smashed up boat.
>He uses it to make a directional antenna that is pointed toward
>Oahu, and tuned to the FM broadcast band. Then he keys in SOS by
>shorting the antenna.
> I am thinking this analogous to using a mirror to flash code using
>the sun's light. In this case, interference should be created either
>at the FM frequencies, or if the person was able to construct a diode,
>multiples thereof.
> My question is, could this produce a detectable effect which might
>have the slimmest chance of getting the person rescued; or can anyone
>think of another possible example of "powerless communication"?
>
>CC/Impulse/N2QMU

I don't think it would have a prayer of working. The passive antenna would reradiate too little signal to have a noticable effect on an FM receiver at a distant location. Remember that the FM receiver has a limiter that saturates on the desired signal so your very tiny reradiated signal would be swamped. Only if you could introduce enough signal to generate significant multipath would there be detectable distortion in the receiver, and that, I'm afraid, would require the receiver to be very close by, IE you could probably holler further than this would work.

OTOH, you have something with the idea of rectifying the signal to use as power for generating another signal, say on the emergency band. That might have a ghost of a chance of working. You need more than a diode though. You need a tuned circuit you can "ring" with the excitation so as to generate a signal on 121.5 or 243 MHz. The signal will be horribly weak, but as we know, even very weak signals can sometimes be detected to surprising distances.

I think I'd be looking for some zinc plating off the wreck, however. Sticking a piece of zinc and a piece of copper into a coconut makes a dandy little battery. *Now* I can start to generate a real signal. Or I'd wind some of that wire around a bit of iron and make a dynamo so that I could crank up electricity to order. Once I've got some power, I can make a nasty spark transmitter that will annoy someone enough to come looking for it.

In the latter vein, if all you can generate is a very weak signal, put it where it'll be the most annoying, where the weakest signals are received. In that regard, be aware of what frequencies radio astronomers monitor.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2313. Re: HAM III/CD44 (CDE) Rotor Problems, help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr9.170550.3855@ke4zv.atl.ga.us>
Source record: 106144

In article <4kbprb$drp@news2.cais.com> pablotwa@pacificnet.net writes:
>I have a HAM III/CD44 (CDE) rotor and controller, the rotor works
>really well, however the heading indicator stopped working yesterday,
>it just won't "track" anymore and the needle is not physically stuck,
>I fear that I may have misplaced a wire and I don't have the
>schematic/owners manual. Does anybody out there know how to find out
>how the wires are connected ?, any troubleshooting techniques for the
>meter?, could anybody send me the text or the GIF of the Schematic (or
>both)?, where can I get an old owner's manual?/ book?

The rotator uses a pot for position reporting. Use your VOM to
find the pair of wires that change resistance when you turn the
rotator. That's the pair that go to the meter circuit. To find
the meter circuit connection on the control box, use the VOM to
find the pair of terminals that have a DC voltage on them *when
the rotator is not turning* but the box is on. That's where the
pot connects. The motor winding terminals have an AC voltage
on them when the rotator is commanded to turn.

Now assuming you have things wired correctly, and it still doesn't
work, you may be missing the DC voltage, or the pot may have failed.
Your VOM checks should have told you which has happened. If the
pot has failed, replace it. If the DC sense voltage is missing,
you'd better find a diagram for the control box. Of course you
might just have a break in the rotator cable. Ring that out if
you can before plunging into the innards of the rotator.

Gary
--
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534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2314. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr9.171346.3965@ke4zv.atl.ga.us>
Source record: 106145

In article <4kblq2$rg6@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:
>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>: The former is the gotcha, make sure that you know the
>: frequency on which the crystal actually oscillates. It may not be the
>: frequency stamped on the case with crystals intended to be used in
>: receivers.
>
>Of course, the same is true of crystals stamped with the transmitter
>frequency: the crystal likely will oscillate on a fraction (like 1/9 or
>1/12) of the actual transmitter output frequency;

Yeah, if the crystal is for a VHF or UHF rig you can count on this.
If it is for a HF rig, it may operate on its fundamental or an overtone.

>If you are lucky, the crystal may be stamped with _both_ the frequency of
>oscillation and the radio input/output frequency.

Yeah again, but push come to shove you can always rig up a simple
oscillator circuit and *measure* the frequency of the unknown crystal.
If it's an overtone crystal, you'll get the fundamental instead, and
that won't be the frequency or channel stamped on the crystal, or an
exact submultiple thereof. That's a clue, and you can then try it in
an overtone circuit and try to find where it really is intended to
oscillate. Or just use it in fundamental mode if that turns out to
be convienent.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
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Lawrenceville, GA 30244 | |

2315. Re: Help with older FT-530?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr9.172256.4080@ke4zv.atl.ga.us>
Source record: 106146

In article <4kd6b3$k5r@newsbf02.news.aol.com> kd4geu@aol.com (KD4GEU) writes:
>Hello:
> I have an older Yaesu FT-530 that's about 3 years old
>and its one that only took the solder pad 13 mod. My question
>is that it will only transmit up to about 456.000mHz but at
>that freq it flutters at keyup, its quite about 454.000mHz.
>
> Does anyone have any suggestions to get the unit to
>transmit up to 470.000mHz. I did the same mod on a friend's
>530 and his will transmit up around 470.000 to my jealously.

The VCO in your unit is coming unlocked. You'd have to retune
it to make it work, but you might lose the bottom of the ham
band coverage in the process.

> I have permission to use a 460 business band repeater,
>and would like to be able to do so with the 530.

You *do* know this is *illegal* don't you? The 530 is not
Type Accepted for land mobile use. The FCC is *really*
starting to get ticked off about people doing this.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2316. Re: Direct-modulated AM with solid state final? (thanks)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: Monty Wilson <mwilson@bangate.compaq.com>
Message-ID: <DpLwnC.In0@twisto.eng.hou.compaq.com>
Source record: 106147

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>In article <DpK231.B4G@twisto.eng.hou.compaq.com> Monty Wilson
<mwilson@bangate.compaq.com> writes:
>>...If I ever want to try this, I'm definitely going to start with a 50W
>>CB pre-driver and hack on THAT, rather than mess up my main rig.
>
>Ugh. You *can* just use your ham rig in CW mode with reduced carrier
>output to drive an external class C stage that you "plate" modulate.

That's what I meant. I would modify the predriver to go class C, and do
all the other stuff you guys have been telling me about, but do it to the
external amp stage, not my main station rig.

>Actually today I wouldn't do that. I'd run the external stage Class D,
>and vary the switching duty cycle...

I thought about that too, but that's something I need to learn a LOT more
about before I go throwing signals on the air. Thanks. You wouldn't
happen to have a good text to recommend on PWM, would you?

>>When ten meters comes back and I want to get on AM again, I'm getting
>>a peak-reading wattmeter so I can adjust my transmitter properly.

>Wrong tool. You need a modulation monitor scope. Any old oscilloscope
>that lets you drive both the horizontal and vertical plates will do.

If I run across one at a hamfest, I'll certainly pick it up. But finding
one of these working would be more difficult than a peak reading wattmeter.
I thought the latter would allow me to view my 20W unmodulated carrier, then
to speak in a normal voice and adjust my modulation until I could see the
correct peak value on the meter. I would then be able to learn more about
what my final stage could really do before it starts sounding like bad audio.
Also I could get a better idea what my signals were doing when I'm on SSB.

>>There are still some folks out there knowledgeable enough about AM and
>>nice enough to lend a hand.
>
>Some of us still have to do it for a living. :-(

Yes but you still volunteer your valuable advice free of charge to us
lost souls out here floating adrift in SSBland, rescuing us, well never mind.
Thanks again again Gary, and 73,

--
.........Monty.
mwilson@bangate.compaq.com

2317. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4keaa2$jta@news3.cts.com>
Source record: 106148

Christopher Comeaux (impulse@oak.liii.com) wrote:
: I am wondering about the feasibility of the following scenario: A
: person gets his boat wrecked on an uninhabited island nearby Hawaii.
: He has no electricity, but lots of wire from his smashed up boat.
: He uses it to make a directional antenna that is pointed toward
: Oahu, and tuned to the FM broadcast band. Then he keys in SOS by
: shorting the antenna.
: My question is, could this produce a detectable effect which might
: have the slimmest chance of getting the person rescued; or can anyone
: think of another possible example of "powerless communication"?

This indeed could give you the "slimmest" chance of rescue. The very
slimmest. It is possible to receive a radio signal and reradiate it,
(usually in a different direction, as in passive repeaters to get
TV signals over mountains. With a carbon mike, it's even possible
to impose new modulation on top of the existing signal (AM modulation).

But, the problem here, is using the FM bcst band. A small change in
signal strength would not be noticable to a FM listener. Slightly better
chance of making a noticable difference in the background noise level
on the AM band.

I'd use the wire to saw down a few palm trees, and tie them together for
a raft.

John Kolb

2318. RS-232 Computer Interface - FT-736R

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <4kec2s$193p@tetsuo.communique.net>
Source record: 106149

Need a RS-232 interface for the FT-736R or other rigs ?
check out the free software and information on this unit
at:

http://www.gcr1.com/n5gpi/

2319. Re: 6m XCVR project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4keand$5ma@abyss.West.Sun.COM>
Source record: 106150

In article <4kbsc7$dmt@globe.indirect.com>,
Jeff Duntemann <jeffd@coriolis.com> wrote:
>
>Another interesting notion I had is to use the MC145166 cordless phone
>dual-loop synth, which provides two groups of ten channels at 46 and
>49 Mhz, with only a single 10.24 Mhz crystal. My calculations show
>that by replacing the 10.24Mhz crystal with one of the common 11.0592
>Mhz crystals, the divide values on ROM inside the 145166 move up
>entirely within the 6M band. The big snag is that the first IF moves
>up from 10.7 to 11 something as well, making the canonical crystal
>filters unusable.

If you really want a dual-PLL like the MC145166 but don't want to
have to play games with a "non-standard" IF, you could use the
MC145162, which is very similar to the '166 but is serially programmed
for any frequency/reference up to 60MHz, rather than ROM programmed
like the '166. Admittedly, you'd need a CPU (like a PIC) to pump
the PLL, but then you'd have memories and selectable splits, etc.

If a single PLL is acceptable (which should be just fine for a
half-duplex radio, unlike the full-duplex cordless phones), the
workhorse MC145170 is a good choice, usable up to 180MHz (145170-1).

> But an LC filter for the first IF is not
>unthinkable, and I'm going to see if the common 10.7 IF cans have
>enough tuning slop to get up that high. Two of those back to back
>with some impedence matching should give enough selectivity for the
>first IF unless your in downtown LA or somewhere. Out here as with
>most of the country, 6M is pretty dead.

10.7MHz (and 21.4MHz) crystal filters are so cheap, and the performance
using a crystal filter at the first IF potentially so much better than
using an LC filter, I'd be hard pressed to use anything but 10.7MHz or
21.4 MHz for the first IF.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

2320. Sierra QRP rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: alanb@sr.hp.com
Message-ID: <4keddv$4t8@canyon.sr.hp.com>
Source record: 106151

Here's a copy of an article I recently wrote for the local ham club newsletter:

Review of Wilderness Radio's Sierra transceiver

by Al Bloom N1AL

The Sierra is a CW (Morse code) QRP (low power) transceiver kit. I bought it to use camping while on long-distance bicycle tours. For that purpose, I wanted a small, lightweight radio with low power supply current drain. The 2.8 x 6.6 x 7.0-inch Sierra weighs about 1.5 pounds, and draws only about 35 mA on receive. I plan to power it from a string of 8 AA penlight batteries.

You change bands by plugging in different band modules. The cabinet opens with a pair of quick-connect latches, making access to the band module connector easy. Besides eliminating the need for complicated band switching, this method allows you to pay for only the bands you need. Band modules cost $31 each.

I was favorably impressed with the design. With some other ham radio kits I have seen, one look at the schematic was enough to convince me that I didn't want to operate (much less purchase!) the radio. The Sierra, on the other hand, has a well-designed superhet receiver with a 4-pole crystal filter (with adjustable bandwidth 150-1500 Hz), stable VFO, RIT (receiver incremental tuning) and audio-derived AGC. The 2-3 watt transmitter has solid-state T/R switching, which allows any desired break-in keying delay by changing one capacitor.

The hardware is also well thought out and uses good-quality components. The main PC board uses plated-through holes for reliability and is extensively silk-screened to make it easy to locate components. The front and rear panels are also nicely painted and silk-screened, making an attractive enclosure.

The manual is excellent. It leads you through the construction and alignment process, describing how to identify components and pointing out possible pitfalls. I would rate this kit as "moderate" difficulty. Anyone who knows how to solder to PC boards and has at least a little experience building kits or other electronic hardware should have no trouble.

With most kits, the most time-consuming job is wiring up the connectors and cable harnesses. With the Sierra, there are no

connectors or cables to wire, since all components, including the controls and connectors, mount on the main PC board. The most time-consuming job is winding the toroidal coils. It took me less than 8 hours to completely assemble and test the main unit and one band module. I received the kit in the mail on a Monday and worked JE1*** (Japan) on 40 meters Tuesday night.

Each band covers 150 kHz. Available bands include 80m (3.5 MHz), 40m (7 MHz), 30m (10 MHz), 20m (14 MHz), 17m (18 MHz) and 15m (21 MHz). The manual also includes parts information to build your own 160m (1.8 MHz), 12m (24.8 MHz) and 10m (28 MHz) modules. Band module PC boards with hardware but no components are available for $9.50.

This radio is designed to be modified. Several possible modifications are mentioned in the manual, and there is plenty of blank front and rear panel space, and space inside the cabinet, to add your own gizmos. I plan to add an S meter, power/SWR bridge, front-panel bandwidth control and keyer.

The optional KC1 keyer kit ($45) is a tiny (0.8 x 2.5 inch) PC board that interfaces to solder pads provided on the Sierra main board. Construction is a little trickier than the Sierra because of the close-spaced components and PC traces. You'll have to drill your own holes in the front or rear panel to mount it. It has up to 4 memories for pre-programmed messages. It also includes a frequency counter function, adding digital frequency accuracy to your Sierra tuning dial. Readout is via Morse code!

I haven't had much time to operate the radio yet, but it seems to work beautifully. The receiver performs like a "real" ham radio and is infinitely better than the direct-conversion designs common on some older QRP transceivers. The 3.085-2.935 MHz local oscillator is stable. The main tuning dial includes an 8:1 gear-reduction drive, making fine-tuning easy. Dial resolution is 5 kHz, with typically +/- 1 or 2 kHz accuracy.

Wilderness Radio is a new company that seems to specialize in repackaging Northern California QRP Club homebrew projects as kits. In addition to the Sierra, they also offer a 40-meter-only QRP rig called the NorCal 40A for $129. Several of these were successfully built in our local ham club's construction class with good success.

Cost: $245/$269/$295/$369 with 1/2/3/6 band modules. Wilderness Radio, POB 734, Los Altos CA 94023. (415) 494-3806 (9AM-6PM).

2321. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4kecri$67l@abyss.West.Sun.COM>
Source record: 106152

In article <4keaa2$jta@news3.cts.com>, John Kolb <jlkolb@sd.cts.com> wrote:
>Christopher Comeaux (impulse@oak.liii.com) wrote:
>: I am wondering about the feasibility of the following scenario: A
>: person gets his boat wrecked on an uninhabited island nearby Hawaii.

[...]

>I'd use the wire to saw down a few palm trees, and tie them together for
>a raft.

I'd make sure I had Ginger and Mary Anne along when I was ship-wrecked,
and then I'd probably not worry being rescued.

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

2322. Re: NorCal QRP Cascade

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: alanb@sr.hp.com
Message-ID: <4kedj4$4t8@canyon.sr.hp.com>
Source record: 106153

paul_butterfield@wb.xerox.com wrote:

: Home brew crew,
: I would like to build the NorCal QRP club's nifty 75m/20m SSB rig. Problem is
: I can't get to the NorCal web page right now and I need to get purchase
: details on my birthday wish list right away. (XYL shopping plans imminent!)
: Anyone know how much it is and where to get it? Please respond ASAP.
: Thx all!
: 73 de KB2TCG
: Paul_Butterfield@wb.xerox.com

For info about the NorCal QRP club, write to

Jim Gates
3241 Eastwood Rd.
Sacramento, CA 95821

AL N1AL

2323. ! Attention Software Authors !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.829091616.3336.amsoft@amsoft>
Source record: 106154
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna,rec.antiques.radio+phono

ATTENTION AUTHORS OF AMATEUR RADIO, SWL, AND ELECTRONIC SOFTWARE!

If your software is shareware, freeware or public domain, AmSoft would like to include your software in our publication of The World of Ham Radio CD-ROM. If you only have a commercial version you may want to think about a shareware version with registration. Most authors have had good returns on registrations from the first year of publishing thier software on this CD-ROM. If 50 users registered your program from our CD-ROM publication, what would that convert to in income for you? Please give this some thought and let us here at AmSoft know if you would like to publish your works on the AmSoft CD-ROM. If you decide to publish on our CD please upload your software to our FTP site and send me an E-Mail letter of authorization to publish your software on the AmSoft CD-ROM.

NOTE: DEADLINE FOR NEXT CD-ROM IS APRIL 29, 1996

The FTP site is HAMSTER.BUSINESS.UWO.CA directory /PUB/AMSOFT

2324. Replacing SOIC & TSOP devices?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: cyamamot@kilroy.jpl.nasa.gov
Message-ID: <4keo3m$b5q@netline-fddi.jpl.nasa.gov>
Source record: 106155
Cross-posted to: sci.electronics.repair,rec.radio.amateur.homebrew

Greetings,

Does anyone have any experience or techniques they can share about replacing surface mount IC's such as SOIC's and TSOP's?

It seems easy enough to remove once the correct tip is purchased, but what is the best way to solder it back in? Which method will achieve the best "as-new" appearance?

- Fine tip pencil? (Can be done but you need steady hands and connections don't look consistant - as done by machine)
- Small butane torch? (I'VE NEVER TRIED)
- Static-free hot air? (I'VE NEVER TRIED)
- ? ? ? ? ?

I have replaced SMT transistors and 8-pin SOIC's using my plain ol' Weller pencil using a 1mm tip with good results. Only thing is I just can't regulate the exact amount of solder per lead for consistant looking connections.

Now with TSOPs and other finer pitch packages with 0.5mm lead spacing, I can't use the ol' Weller anymore so I'm looking for other means. Any suggestions from those who've replaced SMT devices would be appreciated.

Thanks,
- Cliff

2325. Need ideas to build a 10 meter half wave wire vertical

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: t_dselwa@qualcomm.com
Message-ID: <4kep1b$bh8@qualcomm.com>
Source record: 106156

I want to make a wire version of the 10 meter ringo but made with
wire and PVC pipe

2326. Re: 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: plove%/etc/HOSTNAME
Message-ID: <4kdaqf$a23@squick.apana.org.au>
Source record: 106157

From:rsill@cyberportal.net wrote:
: Does anybody know what the differences are between a 6146B and a 6146W transmitting tube?

: Bob W1FYO
Bob,
I believe the 6146W is a "military" spec version of the "b".
I have used a Ts520S for years, and have always heard about how
great the "w's" are, and how they are always flooting around
"Hamfests", but never been lucky enough to pick any up.

Paul VK4XD.....Cheers :-)
--
****
* E-Mail : plove@quux.apana.org.au | AMPRNET:vk4xd@vk4xd.ampr.org *
* AX25: vk4xd @ vk4rzb.#bne.qld.aus.oc | IP :[44.136.138.118] *
****

2327. Re: QRP Newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: hambrew@qadas.com
Message-ID: <hambrew-0904961618540001@net72.qadas.com>
Source record: 106158

In article <4ke1od$1da8@news3.realtime.net>, mart@bga.com (Marti Sawyer) wrote:

> Is this the best newsgroup to monitor for QRP info? I'm just getting into
> some of the kit built stuff and would like to monitor QRP related info...

> Tnx,
>
> Marti Sawyer

Marti-

Follow the QRPlink from

http://www.qadas.com/hambrew

73,
George WF0K

2328. QRP 2m Transmitter plans??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: paul_butterfield@wb.xerox.com
Message-ID: <NEWTNews.829066088.18276.Pbutterf@butter-pc.ess.mc.xerox.com>
Source record: 106159

Home brew crew,

Can anyone suggest inexpensive plans for a low power ~100-500mW 2m transmitter? The application is a hidden transmitter for a fox hunt. A single frequency (146.565 MHz) FM signal is required. Input signals for PTT and audio will be provided by my CW memory keyer (CMOS Super Keyer III from QST/Idiom Press).

I know I could use an HT for this application, but I would like to construct an inexpensive set up I could give to our club for use in future events without risk to my personal radio collection ;-). Best I've found so far are hundred dollar kits from Ramsey or Hamtronics; I might as well buy an old rockbound xcvr at a hamfest.
Any pointers to appropriate plans?

-Paul
KB2TCG

2329. Need Telefunken SW Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <4kemvq$nuu@stills.pubnix.net>
Source record: 106160

Hi,

I am looking for the schematic for a Telefunken Funkerater Exclusiv 211
SW radio. If anyone has, or knows of where I might find...

Much apreciated

73 de Mark VE2HVW

2330. Montreal area Hamfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <4ken8e$nuu@stills.pubnix.net>
Source record: 106161

The West Island Amatuer Radio Club Inc. has is spring Hamfest this
Saturday (April 13th) in Montreal. Info:

http://www.pubnix.net/wiarc

or email to:

Hamfest_info@HVWTech.com

de VE2HVW

2331. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDppn1J.JH@netcom.com>
Source record: 106162

in <Pine.SUN.3.91.960408130307.10621A-100000@oak.liii.com>, Christopher Comeaux wrote:
: I am wondering about the feasibility of the following scenario: A
: person gets his boat wrecked on an uninhabited island nearby Hawaii.
: He has no electricity, but lots of wire from his smashed up boat.
: He uses it to make a directional antenna that is pointed toward
: Oahu, and tuned to the FM broadcast band. Then he keys in SOS by
: shorting the antenna.

The FM broadcast system has such big margins that he wouldn't be
noticeable. If it can cope with large aluminium structures that
fly through the air (read: commercial passenger jets)...

If he wove it into a corner reflector, a ship or airborne radar could
pick it up as a brighter spot.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2332. Re: Fairly direct plotting of PCB s

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: "Charles R. Patton" <patton_c@a1.wdc.com>
Message-ID: <4kcb1g$3ch@gatekeeper.wdc.com>
Source record: 106226

A small addition to the direct plotting idea. In the old days (maybe 25 years ago), I wanted to make some etched circuit boards. I didn't know then what I know now! So I went to a photoengraver and asked him how he does his process. It was as you described and as many a silk screener has learned, Poly-vinyl choride (white glue) or albumin (egg white) with potassium dichromate. Unfortunately these are not good circuit board resists. In silk screening they work because the paints are solvent (non-aqueous) based and essentially don't attack the resist. When the photo-engraver did his magic, he developed the pattern on a zinc plate. Then he dipped the developed pattern in chromic acid (as a hardening agent) then he heated the zinc plate until he changed the resist to a dark chocolate brown. At this point the resist would withstand hot ferric choride or nitric acid (I don't remeber for sure which.) The stuff (resist) had to be removed with abrasives! When I tried to duplicate the heating step on circuit board, the PCB would de-laminate as the temperature required was too hot. Then I learned that PCB resists work by using a solvent (non-aqueous such as tri-chlor) based component which in negative working materials will harden on exposure to light. Thus when used in aqueous etchants such as ferric choride, the etchant has no solvent effect on the resist. The resist is then removed by using a more aggressive solvent such as MEK.
So I'm not sure how you would apply your idea to provide the hardening agent to solvent based systems. However, as I recall you can thin laquers or tar based paints and use them as the ink in a pen and do a direct plot on a PCB and then go direct to etch.
Charles R. Patton patton_c@a1.wdc.com

2333. Re: Six Meter Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4kd1og$j9g@newsbf02.news.aol.com>
Source record: 106227

In article <31696059.41C67EA6@nt.com>, Dave Ward <dave.ward@nt.com>
writes:

>where I can get a reprint?

You'll probably be able to get a back issue of QEX from ARRL.
Their phone numbers and e-mail addresses are in QST.

Good luck with the project. Hope to work you on 6.

73, Mark KN5S DM62

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2334. Re: List Of Stamp Applications [960408]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-09 00:00:00 UTC
From: Tom Clark <clark@tomcat.gsfc.nasa.gov>
Message-ID: <3169C5E6.2DE9@tomcat.gsfc.nasa.gov>
Source record: 106228
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The URL's you posted:

http://www.hth.com/losa.html

and

ftp://ftp.parallaxinc.com/pub/text/losa.txt

both give a "not found" error. Could the name be wrong?

Tom Clark

2335. Re: [Q] Modifying Ramsey SW Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: domonkos@access4.digex.net
Message-ID: <4kgkcf$2j5@news4.digex.net>
Source record: 106079
Cross-posted to: sci.astro.amateur,rec.radio.amateur.homebrew

The Ramsey receiver is too wide at the front end, no selectivity. You will get SW broadcasters across 10 Mhz. You're better off buying a cheap radio shack SW receiver.

Andy

2336. Re: FREEMEN

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: buydens@duke.usask.ca
Message-ID: <4kgmr6$33u@tribune.usask.ca>
Source record: 106080

Paco@loco.usa wrote:
: timhynde@ix.netcom.com(Tim Hynde ka8ddz qrp/Rochester, MI) wrote:

: >In <4jq5o3$8bv@newsbf02.news.aol.com> charri3122@aol.com (CHarri3122)
: >writes:
: >>
: >> ---- PROTEST IN MONTANA ----
: >>
: >> We the people have assembled in Lewistown, Montana to show support
: >> for the Free men here and across the nation.
: >--snip--

: >Oh God I hope this thread doesn't last long.

: >Tim, ka8ddz

: Irronic, isn't it? Go free China or some other country (Canada?) that
: really needs wackos like you.

Please, for our sake DON'T send them to Canada. I know NAFTA allows free
flow of goods but I don't think gun carrying weirdos is in that category ;-)

Brian.

: Unos huevos rellenos, por favor!

: Juan, pth!

2337. RS-232 to TTL interfaces ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <4kgmlc$ou8@tetsuo.communique.net>
Source record: 106081

If you are thinking about using you PC to control
you ham rig check out my page and the FT-736R CAT
section. The unit shown is usable on all rigs that
require a RS-232 to TTL level converter to control
the rig. Kits include all connectors needed for
connection to Kenwood, Yaesu or Icom rigs and as
well as others.

Check it out ...

http://www.gcr1.com/n5gpi/

73,
N5GPI

2338. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4kgp14$ot9@newsbf02.news.aol.com>
Source record: 106082

```
< *Now* I can start to generate a real signal.
<Or I'd wind some of that wire around a bit of iron and make a dynamo
<so that I could crank up electricity to order. Once I've got some
<power, I can make a nasty spark transmitter that will annoy someone
<enough to come looking for

Talking about a spark-gap transmitter, how about using the ignition coil?
I bet you could send an annoying message pretty far at night with a rig
like that. I noticed that a simple key-buzzer in a jeep I was working on
could produce significant RF all the way up to (and past) 310 MHz.
/=====================================================/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/=====================================================/
```

2339. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr10.163538.9233@ke4zv.atl.ga.us>
Source record: 106083

In article <4kecri$67l@abyss.West.Sun.COM> myers@West.Sun.COM (Dana Myers) writes:
>I'd make sure I had Ginger and Mary Anne along when I was ship-wrecked,
>and then I'd probably not worry being rescued.

Which explains why the Professor could always whip up a receiver, but
never seemed to be able to get a transmitter going. :-)

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2340. PC Board Software???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: pelt@vt.edu
Message-ID: <pelt-1004961425500001@pelt.ams.vt.edu>
Source record: 106084

Can someone tell me where I can get/buy/borrow/steal software to design
printed circuit boards?? Mac or PC

Many tnx

--
Ranson J. Pelt

pelt@vt.edu
QST de nz4i

2341. Wrong URL to L.O.S.A List !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: cj@hth.com
Message-ID: <316bf1c5.0@news.buller.se>
Source record: 106085
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi,

I'm sorry to bother you but thanks to Dave Fritsche who pointed
out an typo in the L.O.S.A address given in the list.

The correct URL is...

http://www.hth.com/losa.htm

and NOT...

http://www.hth.com/losa.html
^^^^

Regards,

/Christer

-=-=-=

2342. New Radio Needs No Batteries

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: 74301.2203@compuserve.com
Message-ID: <4kh9rm$lt@dub-news-svc-2.compuserve.com>
Source record: 106086

Windup Technology, Inc.
(206) 783-2880 Fax: 783-8773
E-Mail: 74301.2203@compuserve.com

For Immediate Release
Contact: Charles "Luke" Lukey
(206) 783-2880
74301.2203@compuserve.com
Photo available by request

Portable AM/FM/SW radio needs no batteries, uses clockwork generator
Designed for outdoors, emergencies, isolated areas
South African BayGen Freeplay radio makes US debut

Seattle, WA - April 9, 1996-- A lunch-box sized portable radio that requires no batteries or outside
power source makes its US debut. The BayGen Freeplay radio, introduced to Africa last Fall, is now
available in the United States. Built by BayGen Power Ltd. of Cape Town, South Africa the radio,
powered by a clockwork generator, can play for 40 minutes on one 30 second windup. The portable
AM/FM/SW radio is useful for campers, vacation cabins or emergency home use. The BayGen
Freeplay radio is available now for $149.00 from Windup Technology, Inc., 1-888-946-3871
(1-888-WINDUP1) or 206-783-2880. E-mail: 74301.2203@compuserve.com.

The BayGen Freeplay radio, invented by Briton Trevor Baylis, is powered by
a wind-up spring that turns an internal generator. This method, used in the Gramophone decades ago,
has been modernized with new materials and
computer technology. The radio, currently in production in Cape Town, has the backing of South
Africa's President Nelson Mandela and is endorsed by 20 aid and relief agencies.

Charles Lukey, President of Windup Technology, Inc.: "The Winter of 1996 was one of the worst in
US history. Millions of people turned to their battery powered radios after the lights went out - many to
discover the batteries had gone dead.. The BayGen Freeplay radio is ready anytime."

Operating the three-band radio is simple. Turning a crank for 30 seconds provides enough electricity to power the radio for about 40 minutes. The generator will last for about 10,000 winds. The US version of the radio comes with a DC adapter for wall socket convenience and retails for $149.00.

The radio also appeals to those concerned about the cost and disposal of batteries. A comparable AM/FM radio would require over 400 "D" cells to match the BayGen Freeplay's minimum rated generator performance of 6600 hours.

The BayGen Freeplay radio is BayGen Power's first product. Other products currently in development include a windup flashlight and a windup Walkman-style radio.

For information on the BayGen Freeplay contact: Windup Technology, Inc., 7012 22nd Ave NW, Seattle, Washington, 98117-5625. Toll Free: 1-888-946-3871 (1-888-WINDUP1) or 206-783-2880. E-Mail: 74301.2203@compuserve.com.

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2343. Re: [Q] Modifying Ramsey SW Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn4mo787.33n.mulveyr@ll.aa2ys.ampr.org>
Source record: 106087
Cross-posted to: sci.astro.amateur,rec.radio.amateur.homebrew

On Wed, 10 Apr 96 09:44:04 PDT, ggherb@ccmail.monsanto.com <ggherb@ccmail.monsanto.com> wrote:
>
>I have a question.
>
>
>Before I commence work on a 18mhz - 22mhz receiver for
>monitoring Jupiter, can I simpley modify the filter section of
>a Ramsey shortwave kit for this range.

Well, it's generally difficult to modify something that isn't there... :-)
(Ramsey's are known for their very poor front ends and transmitter
filtering.)

- Rich

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com
aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

2344. CD MODS NEEDED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: qwick@interaccess.com
Message-ID: <4kh9lp$mod@nntp.interaccess.com>
Source record: 106088

I need mods for the following:
Uniden 66
Ranger 2950
Cobra 29 23-channel
and most important.. Midland ?? a cheapy from walmart
Any other info on linears and amplifiers would help a lot too.
Thanks...

2345. Re: [Q] Modifying Ramsey SW Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: "David W. Knisely" <dk84538@ltec.net>
Message-ID: <4khb5k$kbk@iac2.ltec.net>
Source record: 106089
Cross-posted to: sci.astro.amateur,rec.radio.amateur.homebrew

Hi there. If you want a really GOOD small portable shortwave receiver for WWV (or anything else), the I highly recommend the Sony ICF 7600G (available from Grove Enterprises for near $200). It covers long wave, medium wave and shortwave (150 Khz to 30 Mhz), with digital readout and keypad entry, scanning, SSB capability, and Synchronous detection, along with standard FM broadcast (stereo with headphones). It is quite sensitive, and fits very nicely in my eyepiece box. But if you are going to use it with an A.C. adaptor, get the Sony version, since the DC input jack is not standardized.

David Knisely, KA0CZC, Beatrice, Nebr.

2346. 4-1000 Tube and Socket For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: miker@nrv.net
Message-ID: <4khh1b$hum@kirk.nrv.net>
Source record: 106090

Im cleaning the shack and also trying to raise some spending money for a
trip in a couple weeks.
I have an Eimac 4-1000A tube and Socket I'll take $75.00 plus shipping.
Please leave voice # if interested.
Thanks
Mike
miker@nrv.net
KC4QN@W4CA.VA.USA.NA

2347. Thanks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: Steve Clements <steve.clements@amigabee.posnet.co.uk>
Message-ID: <9604102260810514@amigabee.posnet.co.uk>
Source record: 106091

hi,

Thanks to Moritz DL5UH for your reply.

I have now a design set using a very similar MMIC, for masthead amps.

Thanks also to K2?? for your reply. Sorry for not remembering your call
better, or your name, but your mail is safely stored away on my HD.

Trouble is I have just changed computers, and the HD wont work on this
one, and the other is dismantled :-(

Yes please, I would like the photocopies if OK by you.

73 Steve G1YBB
-
-=-=-=

2348. How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: n2ucn@wa2soc.ampr.ORG
Message-ID: <504@wa2soc.ampr.org>
Source record: 106163

> I do my boards by printing with a laser onto mylar film, the stuff
> people used to do drafting on. It makes a big difference having a
> high resolution laser. 600dpi works very well. Print it out so that
> the toner side will be against the board and expose to the UV to cure
> the resist. It seems to work very well and is sharp enough to make
> surface mount boards with.
>
> Lyndon

This is an interesting method, Lyndon. I thought that heat was was
required to tranfer the toner from the mylar to the copper
side of the board. Please elaborate on your method.

Chuck Curtis, N2UCN

amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

2349. WTB:crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: amman@airmail.net
Message-ID: <4kf3ss$pde@news-f.iadfw.net>
Source record: 106164

Need crystals:
10.97625 MHz
10.15175 MHz for cb to 6 meter mod.

Thanks,
Robert KC5RYI
amman@airmail.net

2350. Re: Ten-Tec 1209 transverter kit: comments?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: erica.s@worldnet.att.net
Message-ID: <4kfc9v$l1h@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 106165
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>

> I received my 1209 2m - 6m transverter kit last week, but have

What other new kits have they announced? I hadn't heard about the
2m to 6m kit?

Rick KT2Q

2351. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <356.6673T1294T669@nycmetro.com>
Source record: 106166

Thanx for the info on Crystals.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2352. 2N2156 transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: "Colin Schmutter"
Message-ID: <4kfetm$93d@chopin.bcit.bc.ca>
Source record: 106167

I am looking for a source for 2N2156 transistors.

If these are unavailable what would be an equivalent?

Any help would be appreciated.

Please reply to cschmutter@bcit.bc.ca

Colin

VE7CQH

2353. Re: WTB:crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4kfl5g$8dq@nntp.Stanford.EDU>
Source record: 106168

```
>Newsgroups: rec.radio.amateur.homebrew
>Subject: WTB:crystals
>Date: Wed, 10 Apr 1996 02:46:36 GMT
>Organization: customer of Internet America
>Lines: 9
>Message-ID: <4kf3ss$pde@news-f.iadfw.net>
>NNTP-Posting-Host: dal19-04.ppp.iadfw.net
>X-Newsreader: Forte Free Agent v0.55
>
>Need crystals:
>10.97625 MHz
>10.15175 MHz for cb to 6 meter mod.
>
> Thanks,
> Robert KC5RYI
> amman@airmail.net

It is not very likely that someone will have odd frequency crystals
like these laying around. Your best bet is to order them from
someone like International Crystal. These folks probably have the
details of the radio you are trying to modify on file and can make
the correct units for you. They are not too expensive either.

Good Luck

Steve Muther WF6R
```

2354. Wanted: YAESU FT-102 Technical Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: "JOSE V. GAVILA" <Fermax.esp@vlc.servicom.es>
Message-ID: <4kflqt$eb@ns.mad.servicom.es>
Source record: 106169

Hello to all and THANKS for reading this message.

As title says, I need the FT-102 Tech Manual (NOT the one supplied with the rig, but the tech addendum).

Please, if you have it and want to sell or you can make me a copy, please, tell me. I would pay all expenses.

THANKS!

73s JOSE - EB5AGV / EC5AAU

e-mail: EB5AGV@AMSAT.ORG

2355. Re: Question: Xtal Grinding Technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4kfro8$rvp@crash.microserve.net>
Source record: 106170

rmwatson@eskimo.com (Robert Watson) wrote:

>You take a sheet of aluminum foil and lay it down on the workbench,
>and upon the top of the aluminum foil you lay a sheet of glass. You
>take some jumper wires and connect one end to the aluminum foil, and
>the other end to the center conductor of your receiver. You then take
>the receiver and tune in to the "target" crystal frequency. You then
>begin to grind the crystal, (using Comet and water, or some other
>recommended abrasive, in the figure-eight pattern), and while you are
>grinding, you will begin to hear the oscillation of the crystal
>through the receiver.

I ground a lot of crystals in my Novice days, but I never heard of this. Makes sense though - the crystal generates a voltage under stress, and it stands to reason that it might emit its natural frequency during the grinding process. The only thing I would wonder is whether the liquid coating the crystal might not reduce its frequency somewhat while you're actually grinding it. Neat idea though!

Incidentally, its usually not possible to move the crystal too far without a considerable reduction in activity. I ruined a lot of FT-243 crystals like that. :(

73,
Jack WB3U

2356. Re: Source for parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4kfu3g$rvp@crash.microserve.net>
Source record: 106171

mack@mails.imed.COM wrote:

>I saw something about this place a while back on ham-homebrew but had
>no opportunity to get there until last Friday.
>
>The place is City Electronics in Bellaire (Houston). He is,
>unfortunately, only open 9 to 5 Mon-Fri. He has a phone
>(713-663-6066) and does MC/Visa and shipping.
>
>He has fun stuff like high wattage pots and tube sockets.

City Electronics is a great source for all kinds of parts and its one
of the things I miss most about Houston. Next time you're in, tell
Alex that Jack from SST said hello. He'll know who you mean.

73,
Jack WB3U

2357. Re: Replacing SOIC & TSOP devices?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4kftor$rvp@crash.microserve.net>
Source record: 106172
Cross-posted to: sci.electronics.repair,rec.radio.amateur.homebrew

cyamamot@kilroy.jpl.nasa.gov (Cliff Yamamoto) wrote:

>It seems easy enough to remove once the correct tip is purchased, but
>what is the best way to solder it back in? Which method will achieve
>the best "as-new" appearance?

Flux the board, then solder the part in place quickly with the
sloppiest tip you've got. Don't worry about shorts or (within
reason) using too much solder. Let the part cool, then go over the
leads with *fresh* solder wick. Don't heat all the leads at once or
the part will lift off the board and you'll have to start over. Also,
make sure your iron is hot enough to get on and off the leads quickly
with the wick.

When you're done, wash the residue off and the part will look like it
hasn't even been replaced. :)

73,
Jack WB3U

2358. help me, how to build a HF linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: Peter Shintani <shintani@tv.sony.co.jp>
Message-ID: <4kfasp$kt5@oskgw.osk.sony.co.jp>
Source record: 106173

Hi:
Does anyone have any experience with the Motorola HF linear amp
applications ? I am considering to build a HF linear, and would
like to know more about the applications. For example, in addition
to the hints given in the application guides, are there other
important matters to consider ? Ie parasitic oscillation,
how to switch the external LPF's, what order of LPF are
required ?, how to switcht the LPF'S, ETC.
At the moment I am thinking of building something in the 600 W
class. (Should I go for MOS or bipolar ? which would
be more cost effective over all, including the cost of
the PS ? Mobile operation is not a consideration)

PETER

2359. Digital Scope.FAQ

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: john@wd1v.mv.com
Message-ID: <john-1004960556240001@wd1v.mv.com>
Source record: 106174

KEY ISSUES REVIEWED IN THE FAQ (in order of appearance)

* DSO INDUSTRY TRENDS (Whats happening in DSO technology this year?)
* DSO FORM FACTORS (What types of DSOs are there?)
* PRIMARY DSO FUNCTIONS (What can DSOs actually do?)
* COMPARISONS (How can I best compare various models)
* APPLICATIONS (What are the most common DSO applications?)
* ADCs (What speed do I really need on each channel?)
* BANDWIDTH & TRIGGER (What numbers and functions are right?)
* ARCHIVAL & MEMORY (How fast, how deep, and can I get more?)
* DISPLAYS (What am I really looking at?)
* MEASUREMENTS (How much is my signal changing over time?)
* DIGITAL SIGNAL PROCESSING (How can I obtain more useful information?)
* DEMOS & PURCHASING (How can I see and get the DSO I really need?)

IF... you want the complete version
of this Digital Scope.FAQ file sent
to you automatically as an
ATTACHED TEXT FILE <35k TEXT File>.

send me (john@wd1v.mv.com).........
an EMAIL where the subject contains
the text "subscribe scope.faq".....

or

go to my Home Page.

73,

John D. Seney |_|_|_|_| e-mail: john@wd1v.mv.com
144 Pepperidge Dr |_| |_| www http://www.mv.com/ipusers/wd1v
Manchester, NH 03103-6150 |_|_ _|_| wireless: wd1v@wb1dsw.nh.usa.noam
voicemail: 603-533-3472 | | | | | skytel page: 5956779@skymail.com

"If you can't see the invisible, you can't do the impossible."

2360. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4kgddl$ml0@newsgate.sps.mot.com>
Source record: 106175

He's using UV-sensitized resist-coated boards. Different process from the toner-transfer method. It's what we did before there were laser printers.

You can buy these boards pre-sensitized (packaged in black bags) or you can buy spray-on resist in aerosol cans. On exposure to light, theresist hardens. Unexposed resist washes off with water.

This method works when you have reliable sunlight -- winter time is not the best. It also works better if you sandwich your sensitized PCB and mylar under a piece of window glass, or use a contact frame.

The "official" instructions say to use UV-spectrum photo flood lights in a light stand, because you can have more consistent control over light intensity and duration.

Jim N6OTQ

2361. Re: All band antenna.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: "George J. Molnar" <gmolnar@interealm.com>
Message-ID: <316BC67B.7BF0@interealm.com>
Source record: 106176

MThompson wrote:
>
> Does anyone have any suggestions on how to make an all band antenna. I
> presumed the best would be a discone, its will be used for receiving
> only.

What, exactly, do you mean by "all-band"? The ham spectrum extends from 1.8 MHz through the microwaves. For ALL of those bands, it's not really practical to speak of one antenna. A discone is a very good antenna, but tends to be physically very large for the MF/HF bands, but very practical for VHF/UHF. For HF "all-band" coverage, you might want to consider a trap dipole, or even a tuned wire, depending on your installation/resources/needs.

73

--
George J. Molnar
Highlands Ranch, Colorado
Amateur Radio: KF2T@N0QCU.#NECO.CO.USA.NOAM
http://www.interealm.com/p/gmolnar/index.html

2362. [Q] Modifying Ramsey SW Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: ggherb@ccmail.monsanto.com
Message-ID: <NEWTNews.829154941.28884.Postmaster@GGHERB.MONSANTO.COM>
Source record: 106177
Cross-posted to: sci.astro.amateur,rec.radio.amateur.homebrew

I have a question.

Before I commence work on a 18mhz - 22mhz receiver for monitoring Jupiter, can I simpley modify the filter section of a Ramsey shortwave kit for this range. I have not yet seen the kit nor the schematic, I have however looked over the 118-136mhz receiver they have for aircraft reception. I believe they may be using a similar circuit based on the Signetics frequency converter (NE602). Any information would be helpful. I'd rather make modifications to an existing receiver then build one from scratch, however, I'm not opposed to doing so... Any thoughts, or ideas would greatly be appreciated...

Thanks,

Gary-

2363. Question:Hallicrafters restoration project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-10 00:00:00 UTC
From: mhorn22377@aol.com
Message-ID: <4kgj85$mut@newsbf02.news.aol.com>
Source record: 106178

I am new to shortwave listening and need some help.
Recently, I purchased a receiver (Hallicrafters SW-500) to restore.
Does anyone know where I can find the schematics for this receiver?

Thank you in advance,
Michael R. Horn
MHorn22377@aol.com

2364. Re: DTMF Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: Tom Medlin <tcmedlin@cris.com>
Message-ID: <4khqs9$qim@tribune.concentric.net>
Source record: 106092

I think radio shack sells the ssi202 decoder chip.

please check out my radio shack at http://www.cris.com/~tcmedlin

2365. Re: [Q] Modifying Ramsey SW Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: drb@path.chmeds.ac.nz
Message-ID: <4kidpj$cl5@path.chmeds.ac.nz>
Source record: 106093
Cross-posted to: sci.astro.amateur,rec.radio.amateur.homebrew

David W. Knisely (dk84538@ltec.net) wrote:
: I highly recommend the Sony ICF 7600G (available from Grove
.
: It is quite sensitive . . .

I have one of these (at least, mine is labelled ICF-SW7600) and while
I like it a lot, I would NOT praise its sensitivity.
It seems rather disappointing, especially above 12MHz.

Does anybody out there have measurements of its sensitivity?
--
+---------------------------------+-----------------------------------+
Ross Boswell	Email : drb@chmeds.ac.nz
Department of Pathology	FAX : +64 3 364 0009
Christchurch School of Medicine	Phone : +64 3 364 0590
NEW ZEALAND	Post : PO Box 4345, Christchurch
+---------------------------------+-----------------------------------+

2366. re: high scan composet video to slow scan tv

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: reble@oneworld.owt.com
Message-ID: <4kij5v$gb3@paperboy.owt.com>
Source record: 106094

i am looking for a shairware prog and a schematic for a smpile
interface that will convert the high scan composet video from my video
camera to slow scan tv. does anyone have anything like that?

steve kc7byp

2367. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4khkgu$5ao@dfw-ixnews4.ix.netcom.com>
Source record: 106095

In <504@wa2soc.ampr.org> n2ucn@wa2soc.ampr.ORG (Charles Curtis) writes:

>
>> I do my boards by printing with a laser onto mylar film, the stuff
>> people used to do drafting on. It makes a big difference having a
>> high resolution laser. 600dpi works very well. Print it out so that
>> the toner side will be against the board and expose to the UV to
cure
>> the resist. It seems to work very well and is sharp enough to make
>> surface mount boards with.
>>
>> Lyndon
>
>This is an interesting method, Lyndon. I thought that heat was was
>required to tranfer the toner from the mylar to the copper
>side of the board. Please elaborate on your method.
>
>Chuck Curtis, N2UCN
>
>amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
>ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

One method that I have used that I've never seen mentioned is using an
HP single pen flatbed plotter with a sharpie mounted in place of the
std pen. The ink from a sharpie will resist the etch.

The method Lyndon described uses the photo sensitive board method.

Glenn Sparks KI5GY

2368. homemade acoustic coupler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: bk720@FreeNet.Carleton.CA
Message-ID: <4kis6g$6pg@freenet-news.carleton.ca>
Source record: 106096

Is it possible to build a cheap acoustic coupler for
computer modem use?
My situation is I have a cell phone in a cabin with
power but no phone lines.

Since cell phones are smaller than regular phones,
a normal acoustic coupler will not work (plus they
are expensive).
Would it be possible to run separate small mikes
from each, speak and listen ends of the phone
(each mike would be covered with some kind of
elastic soundproofing material I guess) and
run these two separate lines sever feet away,
amplify them and receive these signals into
separate corresponding ends of computer modem
line jack?

I don't think I have written this very clearly.
The computer talks through a phone line via
a modem and phone line jack.
The phone line jack must have wires for sending
and receiving audio.
I am looking for a cheap homemade solution to
this.
Perhaps if I ran the two mike wires to small
speakers which were placed on a regular sized
phone receiver, then ran the phone jack from
it into the computer.

any comments on this

Carl Steen

2369. Re: 2N2156 transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: Alan Wolke <74150.451@CompuServe.COM>
Message-ID: <4kj3gefdq1@mhadf.production.compuserve.com>
Source record: 106097

>I am looking for a source for 2N2156 transistors.
>If these are unavailable what would be an equivalent?

The 2N2156 is listed in my NTE and ECG Semiconductor cross
references as a PNP, Germanium, high power, high gain amplifier
transistor. It crosses to an NTE213 / ECG213.

--
++
+ I usta cudn't spel enjinere, now I ar wun +
++

2370. Re: Six Meter Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.829234230.23622.jwicklun@mycroftxxx.halcyon.com>
Source record: 106098

> a 6 meter transceiver had been described in the Sept. 1995 issue
> of QEX. The author of the article was Zack Lau.
>

> Does anyone know where I can get a reprint? Is it in the 1996
> ARRL Handbook (which I plan to purchase)?

I haven't seen it, but ARRL is selling a CD Rom that is supposed to contain the entire contents of the QST, QEX, and (I think a contest journal) for the year. I believe that the price is $19.95. Sounds like a good way to archive the year, without taking up a whole bookshelf.

73....de KI7RH (Jay)

2371. 4-1000A amplifier on 2 meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199604111606.MAA12814@service1.cc.uky.edu>
Source record: 106099

I have been looking over the specs for the 4-1000A and the 4PR1000 tubes and
was wondering if anyone ever used one around 144 MHz. I am currently working
on a HF amplifier and need to build a 2 Meter one as well. The specs for
these tubes are good for up to 110MHz but at higer frequencies they are
screen grid neutrlzed by using a series adjustable capacitor to ground. If
they have too great of lead inductance this may not work.
A 4CX or 3CX series tube would obviously be a better choice but I thougt
it would be intersting to make one with a tube that glows.
Please let me know if you have seen anything in a magazine or know anyone
that has had some success in doing this.

73
Bill ko4ww

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

2372. Re: Can't catch me

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <4kjcc1INN3ff@sepia.wv.tek.com>
Source record: 106100

In article <8BE5228.009100120D.uuout@spacecoast-bbs.com> russ.wuertz@spacecoast-bbs.com (RUSS WUERTZ) writes:

A bunch of QRM deleted.
Wow! Way too much time too close to RF.

Now for the homebrew question...
Does anyone have a source here in the US for a MuRata 455J1 SSB filter used in the Epiphyte-2 Transceiver?
How about you folks in other countries, are they available there? I have checked Mouser, Newark, DC, and DigiKey
without success.

Thanks,
Ed Burress
KC7GFX

2373. Sub

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: ianmor@osha.igs.NET
Message-ID: <01BB27A5.5FEA5360@ppp13.osha.igs.net>
Source record: 106101

```
subscribe ianmor@osha.igs.net ham-homebrew
```

2374. Re: [Q] Modifying Ramsey SW Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: akestel@mrj.com
Message-ID: <4kjgv4$6c7@flash.mrj.com>
Source record: 106102
Cross-posted to: sci.astro.amateur,rec.radio.amateur.homebrew

In article <4khb5k$kbk@iac2.ltec.net>,
David W. Knisely <dk84538@ltec.net> wrote:
>[...]
> I highly recommend the Sony ICF 7600G (available
> from Grove
> Enterprises for near $200).
>[...]
>David Knisely, KA0CZC, Beatrice, Nebr.
>
>
>
Indeed it is a nice receiver.
FYI, it is available at Electronic Equipment Bank (EEB) 703 938-3350 for
$179.95

Andre Kesteloot N4ICK

2375. Re: Six Meter Transceiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4kjl23$orh@newsbf02.news.aol.com>
Source record: 106103

Correction:

That was a 6 meter transverter. Sorry.

73, Mark KN5S

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2376. Re: NorCal QRP Cascade

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: Grover Cleveland <groverc@shasta.gvg.tek.com>
Message-ID: <4kjlb8$bnt@gv-gate.gvg.tek.com>
Source record: 106104

That's Jim Cates not Gates.

2377. Re: PC Board Software???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <316D5892.7B13@monmouth.com>
Source record: 106105

Ranson J. Pelt wrote:
>
> Can someone tell me where I can get/buy/borrow/steal software to design
> printed circuit boards?? Mac or PC
>
> Many tnx
>
> --
> Ranson J. Pelt
>
> pelt@vt.edu
> QST de nz4i

go here: http:wuarchive.wustl.edu/Simtel

Best after midnight central time (after all the studes have gone to bed).
You'll have to poke around a bit as I have forgotten where I saw the
files. Look especially in directories that have "graphics" or
"cad".

Bob ND2L

****
Bob Bissett rbissett@monmouth.com
****

2378. Re: Question: Xtal Grinding Technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4kjkup$gk7@hpscit.sc.hp.com>
Source record: 106106

In article <DpH3Hq.6Ez@eskimo.com>, Robert Watson <rmwatson@eskimo.com> wrote:
>
>I recently was discussing with a friend of mine, a technique that seems to
>be quite interesting, yet seems almost too good to be true. I was
>wondering if anybody else has heard of this technique?
>
>It is used when regrinding crystals from a lower frequency to a higher
>frequency, (what else?), anyway, here goes:
>
>You take a sheet of aluminum foil and lay it down on the workbench, and
>upon the top of the aluminum foil you lay a sheet of glass. You take some
>jumper wires and connect one end to the aluminum foil, and the other end
>to the center conductor of your receiver. You then take the receiver and
>tune in to the "target" crystal frequency. You then begin to grind the
>crystal, (using Comet and water, or some other recommended abrasive, in
>the figure-eight pattern), and while you are grinding, you will begin to
>hear the oscillation of the crystal through the receiver.
>
>I was told that this will bring the frequency to close proximity, but I
>was thinking you could also use the audio filters to "narrow" the target.
>
>Has anybody tried this out at one time or another, and if so, do you have
>any further suggestions that may help me (or others)?
>
>Thanks much,
>
>Robert/KJ7BO
>rmwatson@eskimo.com
>

This is a standard industry technique that we use here at the Hewlett-Packard
Santa Clara Division in our crystal fab. The part about listening with a
radio receiver works just like you describe. Of course, we have "slightly"
more sophisticated grinding methods than you are using. For instance, we
hold the grinding angle to about a 1/1000 of a degree.

You might replace your Comet abrasive with the cerium stuff they sell at
lapidary supply stores that is used for polishing decorative quartz.
Also, after grinding, you should etch the quartz in hydroflouric acid.
If you don't, the quartz may disintegrate over time due to microscopic
cracks that grow. This actually happened to early WWII vintage crystals.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2379. Re: 4-1000A amplifier on 2 meters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4kjmvv$pe3@newsbf02.news.aol.com>
Source record: 106107

In article <199604111606.MAA12814@service1.cc.uky.edu>,
wlfuqu00@service1.UKy.EDU (William L. Fuqua III) writes:

> Please let me know if you have seen anything in a magazine or know
anyone
>that has had some success in doing this.
>
> 73
> Bill ko4ww

Bill,

The internal leads are too long. The 4-1000 is barely usable in the FM
BCB, and difficult to use at 30 MHz.

Stay away from it if you have other choices, even for HF work, if you plan
on using it above 20 meters. They can be made to work, but they can be
headaches even on ten and fifteen.

73 Tom

2380. Realistic DX 300 Rcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: "Jack A.Peterson" <jpeterson@mail.ncn.net>
Message-ID: <4kjn86$frn@insosf1.netins.net>
Source record: 106108

Needed; Schematic and service info for a Realistic DX 300 Rcvr. I'm willing to pay copying costs and mailing. Thanks K0AMB jpeterson@ncn.net

2381. Re: Can't catch me

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <829253761snz@lfheller.demon.co.uk>
Source record: 106109

In article <4kjcc1INN3ff@sepia.wv.tek.com>
edbu@sepia.wv.tek.com "Ed Burress" writes:

> In article <8BE5228.009100120D.uuout@spacecoast-bbs.com>
> russ.wuertz@spacecoast-bbs.com (RUSS WUERTZ) writes:
>
> A bunch of QRM deleted.
> Wow! Way too much time too close to RF.
>
> Now for the homebrew question...
> Does anyone have a source here in the US for a MuRata 455J1 SSB filter used in
> the Epiphyte-2 Transceiver?
> How about you folks in other countries, are they available there? I have
> checked Mouser, Newark, DC, and DigiKey
> without success.

Cirkit, here in the UK, have the CFM455J1 in their catalogue, at #9.40.
It's stock number is 16-45513. Cirkit's phone number is (01992) 448899.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

2382. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4kjdji$o6n@cloner2.ix.netcom.com>
Source record: 106110

>In article <4keaa2$jta@news3.cts.com>, John Kolb <jlkolb@sd.cts.com>
wrote:
>>Christopher Comeaux (impulse@oak.liii.com) wrote:
>>: I am wondering about the feasibility of the following scenario: A
>>: person gets his boat wrecked on an uninhabited island nearby
Hawaii.
>
>[...]
>
>>I'd use the wire to saw down a few palm trees, and tie them together
for
>>a raft.
>
>I'd make sure I had Ginger and Mary Anne along when I was
ship-wrecked,
>and then I'd probably not worry being rescued.

Forget the wire, I'd make a small transmitter out of coconut shells,
for more information reference "Gilligans Island" episode #16.

2383. Questions about SAW devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: Kelly McArthur <Kelly_Mcarthur@ccm.jf.intel.com>
Message-ID: <4kjuq5$j5b@news.jf.intel.com>
Source record: 106111

I just read an article that briefly described the use of SAW (Surface Acoustic Wave) devices in simple, low-cost RF transmitters. Apparently, they are available both as filters and resonators, for frequencies in the hundreds of MHz.

I'm interested in short-range RF data transmission via simple, inexpensive links, and these seem like they might be a good alternative to the LC circuit's stability problems, or the complexity of crystals with frequency triplers, etc. I was also wondering if the SAW resonators are pullable, for FM or FSK transmission schemes?

If anyone can help with info on Manufacturers and Data Sheets, Distributors and Application Information, I would be very interested. Thanks!

Kelly_McArthur@ccm.jf.intel.com

"Personally, I don't enjoy working with lawyers. If you hire them, you have to pay them. If you pay them, they eat. If they eat, they breed... you get the idea. It's a viscious circle."

-J.R. "Zoom" Campbell

2384. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: edbu@sepia.wv.tek.com
Message-ID: <4kk3hhINN3vf@sepia.wv.tek.com>
Source record: 106112

In article <4khkgu$5ao@dfw-ixnews4.ix.netcom.com> gsparks@ix.netcom.com(Glenn Sparks) writes:
>
>One method that I have used that I've never seen mentioned is using an
>HP single pen flatbed plotter with a sharpie mounted in place of the
>std pen. The ink from a sharpie will resist the etch.
>
>The method Lyndon described uses the photo sensitive board method.
>
>Glenn Sparks KI5GY

I used that method years ago, and found that every time the plotter lifted the pen, or put it back down, I got a void in the trace due to not enough ink in that area.
I never could get around the problem . Solid fill areas looked like a photograph of a farmers
field taken from an airplane. If someone has made this work, I would like to hear about it.
I did however borrow the plotter idea to build an X-Y-Z drilling machine to do my ECB drilling.

I have had much better luck since adopting the laser toner method
(fused to the board with a tee shirt press).

Good Luck everyone,
Ed Burress
KC7GFX

2385. Seeking info on RCA Victor 1959

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: spider15@ix.netcom.com
Message-ID: <4kk05o$55s@cloner3.netcom.com>
Source record: 106113

I have just discovered multi-band radio by way of a RCA Victor, vintage 1959 multiband, model 1-MBT-6 - Super heterodyne. If any one can tell me more about this radio or where to best learn more about cruising the world visa via multiband, I would appreciate it. Please e-mail me direct if it better serves this newsgroup. I loved my first exposure and want to learn more before investing new money. Thanks.

2386. POCSAG Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: pocsag@l0pht.com
Message-ID: <pocsag-1104962341170001@whacked.l0pht.com>
Source record: 106114
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.scanner,sci.electronics,sci.electronics.misc,alt.cellular,alt.cellular.tech

LHI POCSAG Decoder

Pager data stream monitoring unit

L0pht Heavy Industries is proud to announce the release of our POCSAG monitoring unit. Used in conjunction with a radio scanner or receiver, it allows off-the-air decoding of POCSAG paging signals at 512, 1200, or 2400bps. Both numeric and alphanumeric messages will be decoded, as well as a hex dump of raw POCSAG codewords.

This system is useful for the testing of paging systems and transmitters. With the included software, one may reject or log to disk specific pager capcodes, making it easier to track only the necessary signals. The device is powered off a PC-compatible serial port and is extremely small - handy for portable use.

The unit is available in both kit ($59.95 + s/h) and fully-assembled ($89.95 + s/h) versions. All components, schematics, software and documentation are included. Fully-assembled units are tested before shipment. General soldering and electronics knowledge is required to construct the unit from kit form, so please be aware when ordering. LHI is not responsible for any results, good or bad, produced by the user during use or construction of the product, so consider the assembled-unit if you are not confident in your assembly skills.

Name: _____

E-mail Address: _____

Mailing Address: _____

_____

City, State: _____

Country, Postal code: _____

Number of units: _____ Circle one: KIT ASSEMBLED

Amount Enclosed: _____

To:

POCSAG Project Division
c/o L0pht Heavy Industries

P.O. Box 990857
Boston, MA USA 02199-0857

Please include $59.95 for kit-form or $89.95 for fully-assembled unit plus $5.05 for shipping and handling in United States currency for each unit ordered. We will ship all orders via First Class United States mail to anywhere in the World. Cash, Check or Money Order accepted, sorry no Credit Card orders. Please make all checks payable to L0pht Heavy Industries. Massachusetts residents please add 5% sales tax. Please allow four to six weeks for delivery.

L0pht Heavy Industries (L.H.I.) assumes no liability for lost or misdirected mail. LHI reserves the right to refuse sale of this unit to any person, organization or entity. All sales are final.

Any questions can be directed to pocsag@l0pht.com

An HTML version of this document can be found at:
http://www.l0pht.com/~kingpin/pocsag.html

2387. Re: Help: need altimeter device for ham balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: cj@hth.com
Message-ID: <316d8c6d.0@news.buller.se>
Source record: 106115

Hi Brian,

acc@pobox.com (Brian) wrote:

>Me and a few of the local hams are putting together an Amateur Balloon

>We are in the fist stages of equipment design and I'm the lucky (or is
>that unlucky) one who gets to build the instrument package. For the
>first flight we are going to use a Basic Stamp (I or II not sure yet)
>to send telemetry and collect data from onboard sensors.

Sound like a neat project, would be great to have it in the L.O.S.A
when you are finished (see http://www.hth.com/losa.htm for more
info)...

>I have completed the temperature sensors and i am looking for a way to
>determine the altitude of the balloon (low cost needed) I have heard
>of a few chips or rather modules by motorola that do this. If anyone
>can help we would be most greatful.

Get hold of Motorolas "Sensor devide Databook" (DL200/D REV 2) there
are lots of information about pressure sensor that you can use to
build an altimeter. Maybe they have it on-line, point your browser
to the following URL and take a look...

http://motserv.indirect.com

Regards,

/Christer

-=-=-=

2388. Re: List Of Stamp Applications [960408]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: cj@hth.com
Message-ID: <316d8c6f.0@news.buller.se>
Source record: 106116

Hi,

filip@alpha.smi.med.pitt.edu (Filip M Gieszczykiewicz) wrote:

>Greetings. The other thing to try in this situation is for the
>use of Micro$oft braindeath: 8.3...

>http://www.hth.com/losa.htm
> |Missing 'l'

Sorry for the confusing I made due to my type. Filip is correct
the URL is...

http://www.hth.com/losa.htm

>WORKS. Which means they run Dos or Windoze. Poor people.

Nope, we are using Windows NT.

Regards,

/Christer

-=-
* High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-

2389. Re: Can't catch me

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: Gordon B Slater <gordy@gbscomms.demon.co.uk>
Message-ID: <747561425wnr@gbscomms.demon.co.uk>
Source record: 106117

In article: <4kjcc1INN3ff@sepia.wv.tek.com> edbu@sepia.wv.tek.com (Ed Burress) writes:
> Now for the homebrew question...
> Does anyone have a source here in the US for a MuRata 455J1 SSB filter used in the Epiphyte-2 Transceiver?
> How about you folks in other countries, are they available there? I have checked

yes, we use them, but we buy in batches of 50 through an agency here
in the UK.
My "man in the parts bin" (Tom) says he's waiting for some in coming
in over the next few weeks.

Gordy
(email me if you want to do a deal, I'll try and get price/shipping info)

--
--

* Gordon B. Slater Email: gordy@gbscomms.demon.co.uk *
* G B Slater (Communications) Fax: (01665) 605680 *
* http://www.netlink.co.uk/users/gbscomms) Sales/Service/Ops *
- -
* To quote a infamous lady... *
* "Oh, 'tis my delight on a shiny night in the season of the year" *

2390. Need info: National XR-50 coil form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-11 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4kjomv$85i@mksrv1.dseg.ti.com>
Source record: 106118

Does anyone have specs on the National XR-50 slug-tuned coil form? This is a 1960s part, so dig wa-a-a-a-ay on back into the olden days.

Anyone have one or more of these they'd sell me? I am thinking about building any one of several one-tubers for 40m CW and some call for this coil form.

73 de KC5NG

2391. 10m Conversion President Harry

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: Markus Buehler <mbuehler@hitline.ch>
Message-ID: <316F2319.793F@hitline.ch>
Source record: 106029

Thank you for reading this.
I got a cb radio president harry. It's an AM/FM rig. Are there any modification ideas for the 10 m band ? Which is the best way to build a repeater shift ?
Thank you for any tips.
Marc HB9CPW

2392. Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: fbures@alchemy.chem.utoronto.ca
Message-ID: <Dpr0x0.67G@alchemy.chem.utoronto.ca>
Source record: 106030

I am soliciting an advice on how to create professionally looking front panels of electronic devices.

Over my 37 years of both amateur and professional prototyping I tried all kinds of technologies, none of them with the results I want. E.g.:
Letraset: Too time consuming, very difficult to keep equal spacing between letters, inability to create graphics.
I even tried PnP Blue to transfer front panel images printed on a laser printer. It works _very_ well on Vector aluminum front panels. I does NOT work at all on sand blasted panels or pre-painted panels. The toner simply would not stick.

I would very much appreciate any advice on how to create silk-screen-like panels.

Thanks

Frank Bures, Dept. of Chemistry, University of Toronto, ON
fbures@alchemy.chem.utoronto.ca
CompuServe:71324,1515
Frank_Bures@compuserve.com

2393. Re Printing to copper boards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: Steve Clements <steve.clements@amigabee.posnet.co.uk>
Message-ID: <960412201800107080@amigabee.posnet.co.uk>
Source record: 106031

Hi There

I came across this today at work...

There is some special "paper" you can buy, that you can print your artwork
on with your laser printer (yeah right I got one) or from a copy on a quote "high end copier".

You then iron the paper onto the clean copper (Or use the machine that looks very much like a laminator) to roll and heat it on for you. (Small pcbs OK with iron, quote) The paper and copper clad is is then immersed in
water for about a minute to dissolve the water based adhesive, leaving you
with a etch ready board.

Cost of paper (from this source anyway) is 19 UK pounds for 10 sheets letter size.(Presume this means A4)

Their machine for rolling on the paper for bigger boards is 290.

Address: Milford Instruments,
120 High Street,
South Milford,
Leeds.
LS25 5AQ
UK.

Tel: 01977 683665

They give an email adress as Milinst.demon.co.uk (no first bit given)

73 de Steve
-
-=-
STEVE CLEMENTS (radio : G1YBB @ GB7MAD.#24.GBR.EU)
-=-

2394. Uniden 2510 / 2830

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: ., <>
Message-ID: <4kmj4u$osg@arl-news-svc-2.compuserve.com>
Source record: 106032

Hi all, I have a President Lincon which is also called the Uniden 2510 and 2830 plus a few other numbers, I am looking for any mods for the radio. I look forward to your replys.

2395. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.122.0019338A@azstarnet.com>
Source record: 106033

In article <Dpr0x0.67G@alchemy.chem.utoronto.ca> fbures@alchemy.chem.utoronto.ca (Frank Bures) writes:
>From: fbures@alchemy.chem.utoronto.ca (Frank Bures)
>Subject: Professional looking front panels - how?
>Date: Fri, 12 Apr 1996 12:19:47 GMT

>I am soliciting an advice on how to create professionally looking front panels
>of electronic devices.

>Over my 37 years of both amateur and professional prototyping I tried all
>kinds of technologies, none of them with the results I want. E.g.:
>Letraset: Too time consuming, very difficult to keep equal spacing between
>letters, inability to create graphics.
>I even tried PnP Blue to transfer front panel images printed on a laser
>printer. It works _very_ well on Vector aluminum front panels. I does NOT work
>at all on sand blasted panels or pre-painted panels. The toner simply would
>not stick.

In my experience, you can't beat engraved lettering. For small panels, you might try locating a maker of signs, badges, etc and having a overlay panel made out of plastic laminate. It comes in various thickness and colors, resists fingerprints and the lettering sure doesn't wear off. I have done this on my smaller projects, keyer, speech processor and so forth.

If the engraver has a big enough setup, he can directly engrave aluminum panels. If you protect the already painted surface with thin tape (mylar, etc) you may get away without re-painting the panel. If not, figure on repainting and then filling the lettering with either paint sticks (messy) or hand filling with India ink in a drafting pen.

I know this can get expensive if you don't have access to the equipment, but it is very professional looking and permanent.

73, Wes -- N7WS

>I would very much appreciate any advice on how to create silk-screen-like
>panels.

>Thanks

>Frank Bures, Dept. of Chemistry, University of Toronto, ON
>fbures@alchemy.chem.utoronto.ca
>CompuServe:71324,1515
>Frank_Bures@compuserve.com

2396. Homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4kl4dn$cgn@newsbf02.news.aol.com>
Source record: 106119

I am in the process of switching internet connections, so for a few days I receive this newsgroup on both AOL and Netscape.

The strange thing is, that the messages I receive are different. Some arrive only via one connection, some via the other, and some on both, but often at very different times, sometimes a day apart.

Can anyone explain this?

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2397. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: bk720@FreeNet.Carleton.CA
Message-ID: <4kkpka$sgu@freenet-news.carleton.ca>
Source record: 106120

Brings up a related point. Aren't there some simple ways
to make batteries out of acidic fruit or potatoes or
saltwater, etc.?

carl steen

2398. Re: 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: Lennart Nilsson <ln@hagagymnasiet.norrkoping.se>
Message-ID: <4klbre$lgp@simba.lejonet.se>
Source record: 106121

6146W is a ruggidized, premier version but the same data applies.

2399. 2N2156

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: wa0znl@wa0znl.ampr.ORG
Message-ID: <1920@wa0znl.ampr.org>
Source record: 106122

This is a very old transistor, I doubt it's in production any more.

I found it's specs in an old (1974) Motorola data manual and they may help you locate a sub. It's a PNP Germanium power transistor in a TO-36 (doorknob) package. Maximum Collector-Emitter voltage is 30VDC. Maximum collector current is 30 Amps. The nominal hFE (beta) is 105 at 5 Amps. It's rated for a maximum heat disipation of 170 watts. Common emitter cutoff frequency is 2.7kHz (nominal).

Pin-out looking down at the terminal side:

```
----- o - index pin and case
/ o \ 1 - BASE
( 2 3 1 ) 2 - EMITTER
\ / 3 - COLLECTOR, mounting stud and case
-----
```

>From these specs I'd guess it's good for a DC voltage regulator's pass transistor or a low frequency DC to AC power inverter.

Happy hunting and 73

```
=o =o =o =o =o
_ /-_ _ /-_ _ /-_ _ /-_ _ /-_
....(_)>(_) .....(_)>(_) .....(_)>(_) .....(_)>(_) .....(_)>(_)
```

Lynn Richardson, Lee's Summit, Mo
wa0znl%wa0znl.ampr.org@hamgate.kc3ol.sound.com
[44.46.176.3]

```
o= o= o= o= o=
_-\_ _-\_ _-\_ _-\_ _-\_
(_)<(_)..... (_)<(_)..... (_)<(_)..... (_)<(_)..... (_)<(_)...
```

2400. Re: Ten-Tec 1209 transverter kit: comments?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: jmg@tntech.edu
Message-ID: <1996Apr12.085657.20357@atlas.tntech.edu>
Source record: 106123
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4kfc9v$l1h@mtinsc01-mgt.ops.worldnet.att.net>, erica.s@worldnet.att.net (Rick) writes:
>>
>
>> I received my 1209 2m - 6m transverter kit last week, but have
>
> What other new kits have they announced? I hadn't heard about the
> 2m to 6m kit?
>
> Rick KT2Q

I am completing a review of the 2 meter kit. The basic kit is $200 and an extra $50 I believe for the 35 watt amplifier module which fits on a large heat sink that attaches to the back of the rig.

The finished rig won't have all the bells and whistles of a mobile 2 meter rig.. no scanning, and right now no DTMF mike to go with it.. but it has internal provisions for tones and packet and they are looking to put a matching mike or mike kit out for it.

The rig does have 15 memories, is small and looks very professional (not like a kit) when completed.. does the offset and non-standard offset.

The rig is built in sections and you test each section and get it functional before proceeding.. I love this approach. The quality of all parts is excellent.. the manual is excellent. the original had a couple of minor errors, only one that would cause you desoldering problems.. but they have already done an addendum that caught all the problems I came across.. the Faxed it to me. The support is excellent.. if you run into a problem, you can talk to someone I believe who designed it.. but at least he knows about everything there is to know about the rig.

You only need a standard meter for most of the alignment. I found the alignment process for all sections extremely easy.

I loved building the kit.. it works great and the enjoyment I had building it justified its cost.

73
Jeff

2401. BFR-91 equivilant

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <4klpqd$t6r@freenet-news.carleton.ca>
Source record: 106124

Could someone tell me what what be an equivilant to a BFR-91?

I can order them locally thru Active, but it's a $25.00 minimum.

tnx

2402. 3cx400U7

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: cunliffe@frontiernet.net
Message-ID: <4km0po$19ne@cheatum.frontiernet.net>
Source record: 106125

Hi
I am looking for a socket for a 3cx400U7 tube. If you have one in your
parts box and have no use for please trop me a line.
Thanks, John
==========
John R. Cunliffe N2NEP
cunliffe@frontiernet.net
http://www.frontiernet.net/~cunliffe

2403. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4km0p6$iqs@newsbf02.news.aol.com>
Source record: 106126

```
>Brings up a related point. Aren't there some simple ways
>to make batteries out of acidic fruit or potatoes or
>saltwater, etc.?

A lemon and some pocket change will make a cell.

/=====================================================/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/=====================================================/
```

2404. Re: Homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4km6u3$pun@crash.microserve.net>
Source record: 106127

kn5s@aol.com (KN5S) wrote:

>I am in the process of switching internet connections, so for a few
>days I receive this newsgroup on both AOL and Netscape.

>The strange thing is, that the messages I receive are different.
>Some arrive only via one connection, some via the other, and some on
>both, but often at very different times, sometimes a day apart.
>
>Can anyone explain this?

It's the nature of the 'Net. In my experience it is very difficult
to find a news feed that is fast and complete. There was a public
server in UK that had an excellect feed, but it is no longer
available as a public resource.

If the server you use appears to have a lot of missing articles, you
should complain to your service provider. It may be fault of the
service they're using (Sprint, MCI etc), but that doesn't relieve them
of the responsibility to provide good service. My ISP has three
separate feeds and we still have the problem. Because many of us
have complained, they are in the process of revamping their entire
feed system in an effort to eliminate slow/missing news.

73,
Jack WB3U

2405. help with FT736 mod.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-12 00:00:00 UTC
From: Scott Macmillan <scott@golfmike.demon.co.uk>
Message-ID: <NVuaPDAt6pbxEw1u@golfmike.demon.co.uk>
Source record: 106128

I have a Yaesu FT736R fitted with the FTS-8 tone squelch unit.

I want to mod the radio so it can switch on other equipment
(such as a tape recorder) when the FTS-8 receives a valid tone,
and opens the squelch.

Someone told me to connect a wire to the front panel 'BUSY'
light, and us a transistor to switch a relay. This is almost what
I want, but the busy light comes on even when the FTS-8 keeps
the squelch closed.

Any ideas?

--
Best 73's
DE Scott - GM7OMU
Glasgow, IO75tv.
scott@golfmike.demon.co.uk

2406. Re: 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: Don Wilhelm <w3fpr@nando.net>
Message-ID: <4kn02v$p1r@castle.nando.net>
Source record: 106034

The 6146W is ruggedized, but the 6146B has increased plate dissipation.
Sooo - use the "W" if you are mobile over rough terrain, but you can get a
bigger signal out of the "B" variety if you are into pushing the amplifier
to the limits. The ratings of the 6146W are EXACTLY the same as the 6146A.

73,

Don

2407. Need schematics for Linear Amp. (600 watt)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: Dave Perkins <dperkins@cts.com>
Message-ID: <4kmv9k$f7r@news2.cts.com>
Source record: 106035

Me and my step-dad want to build a linear amp but we need to know what parts to get and schematics on it...If anyone has any of the above or maybe and article from QST on how to build one, please let me know..

Please email me (I rarely check the newsgroups)
Any help would be greatful

Thanx again
Dave

2408. Re: Need info: National XR-50 coil form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: Don Wilhelm <w3fpr@nando.net>
Message-ID: <4kn11i$p1r@castle.nando.net>
Source record: 106036

Brings back memories - I have one or two, but I wont part with anything that has a ceramic form. That coil form is 1/2 inch in diameter, and has a winding length of about 1 1/2 inches. I know little about the tuning slug characteristics, but if your goal is to produce an equivalent working model of an old circuit, I would use a polystyrene tube (hollow) and jury rig a way to hold a salvaged tuning slug (from junk IF xformer maybe) inside it. At least that way you would be able to obtain a starting point inductance just from the published number of turns, and once you get the circuit working, substitute a stable coil.

The XR-50 coil form was easy to wind and mechanically stable since there was a locking mechanism on the screw for the tuning slug. The ceramic form was stable with temperature (but I wouldn' vouch for the temperature stability of the tuning slug).

Hope this helps,
73, Don

2409. Re: Low Frequency Counter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: jmccarty@sun1307.spd.dsccc.com
Message-ID: <4kn1kr$ma1@sun001.spd.dsccc.com>
Source record: 106037

In article <1996Mar30.155309.16637@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
)In article <4jihra$l29@crash.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
)> ranecurl@engin.umich.edu (Rane Curl) wrote:
)>
)>>I need a simple (cheap) low frequency timed counter with an LCD
)>>display. Frequencies up to ca. 100 cps; timing intervals of the order
)>>of 10-50 seconds. Seems simple enough, but I have not seen a kit or
)>>even small (ca. 5 digit) LCD display at a low price. Suggestions?
)>
)>A frequency counter with a Period function is useful for this,
)>although you have to convert the readout to frequency. In the Period
)>function, the clock is reset by the signal, not the internal timebase.
)>So, the lower the frequency, the longer the elapsed time that reads on
)>the display. This is probably the best way to accurately measure very
)>low frequency signals.
)>
)>Other than that, I suppose you could buy a counter with a 10 MHz
)>timebase and replace the crystal with a 1 MHz or 100 KHz equivalent.
)
)Ramsey (yeah, I know) offers a frequency multipler for this use.
)It multiplies the input frequency by 10x or 100x before presenting
)it to the counter. This lets you measure low frequency signals with
)better precision (if not accuracy) on an ordinary counter. I've
)used it to precisely measure audio frequencies. An oscilloscope
)and a precision frequency source is a better method, however.

Do you need a decimal display? If not, how about taking a digital clock,
and removing the AC feed to the counter chip. Feed it instead with the
signal you're trying to count (suitably conditioned) and use it as a
counter? This would be very cheap.

Mike
--
----
char *p="char *p=%c%s%c;main(){printf(p,34,p,34);}";main(){printf(p,34,p,34);}

I don't speak for DSC. <- They make me say that.

2410. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: flanders@znet.groupz.net
Message-ID: <4kmvi1$42a@news1.sunbelt.net>
Source record: 106038

fbures@alchemy.chem.utoronto.ca (Frank Bures) wrote:

>I am soliciting an advice on how to create professionally looking front panels
>of electronic devices....

>Thanks

>Frank Bures
==========
Use the overhead transparency material in your laser printer to make a
full-sized panel overlay with all the lettering properly placed.
Cutout holes and trim appropriately.

Place the above transparency over your (light-colored) front equipment
panel.

Place a pre-cut pre-drilled one-sixteenth acrylic cover over the
transparency and fasten all together with decorative-head screws.

Jerry W4UKU flanders@groupz.net

2411. Site for AM homebrewers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: dorje@mint.net
Message-ID: <316f0cb6.4925777@news.mint.net>
Source record: 106039

http://hamradio.bicnet.com is a site to check out for homebrewing.
Chuck WA1IIE

2412. Re: QRP 2m Transmitter plans??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: dlawson@mainelink.net
Message-ID: <4kn6gm$fdn@news.mainelink.net>
Source record: 106040

paul_butterfield@wb.xerox.com wrote:

>Home brew crew,

>Can anyone suggest inexpensive plans for a low power ~100-500mW 2m
>transmitter? The application is a hidden transmitter for a fox hunt. A
>single frequency (146.565 MHz) FM signal is required. Input signals for PTT
>and audio will be provided by my CW memory keyer (CMOS Super Keyer III from
>QST/Idiom Press).

>I know I could use an HT for this application, but I would like to construct
>an inexpensive set up I could give to our club for use in future events
>without risk to my personal radio collection ;-). Best I've found so far are
>hundred dollar kits from Ramsey or Hamtronics; I might as well buy an old
>rockbound xcvr at a hamfest.
>Any pointers to appropriate plans?

>-Paul
>KB2TCG

use the motorola mc2833 1 chip transmitter. i've done several low
power xmitters with it. it's cheap and fairly easy to bring up.btw it
an fm transmitter.
de david n5inb

2413. Re: Can't catch me

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4kn9b3$5dp@orange.iap.net.au>
Source record: 106041

Leon Heller <Leon@lfheller.demon.co.uk> wrote:

>In article <4kjcc1INN3ff@sepia.wv.tek.com>
> edbu@sepia.wv.tek.com "Ed Burress" writes:

>> In article <8BE5228.009100120D.uuout@spacecoast-bbs.com>
>> russ.wuertz@spacecoast-bbs.com (RUSS WUERTZ) writes:
>>
>> A bunch of QRM deleted.
>> Wow! Way too much time too close to RF.
>>
>> Now for the homebrew question...
>> Does anyone have a source here in the US for a MuRata 455J1 SSB filter used in
>> the Epiphyte-2 Transceiver?
>> How about you folks in other countries, are they available there? I have
>> checked Mouser, Newark, DC, and DigiKey
>> without success.

>Cirkit, here in the UK, have the CFM455J1 in their catalogue, at #9.40.
>It's stock number is 16-45513. Cirkit's phone number is (01992) 448899.

>Leon
>--
>Leon Heller, G1HSM | "Do not adjust your mind, there is
>E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
>Phone: +44 (0)1734 471424 | many years ago in Oxford.

Not that it would have anything to do with the
particular one you're chasing, but just to show how
things are here down under, Dicky's has a stereo
TV receiver kit that uses a Murata tuner. Appears
it's just an ordinary everyday vhf/uhf tuner with
preset voltages (external) to tune it, like what
you'd expect in a vcr. One I got in a kit was
stuffed. Dicky replaced it, no sweat, but they
had it listed in their spare parts cat at >>>$A110+ !!

Uncle Brian VK6BQN

2414. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4kmupd$6s8@hpcvsnz.cv.hp.com>
Source record: 106042

Frank Bures (fbures@alchemy.chem.utoronto.ca) wrote:
: I am soliciting an advice on how to create professionally looking front panels
: of electronic devices.

: Frank Bures, Dept. of Chemistry, University of Toronto, ON
: fbures@alchemy.chem.utoronto.ca
: CompuServe:71324,1515
: Frank_Bures@compuserve.com

Oh, good, associated with a chemistry department...

OK, try this: Create the panel blank from aluminum. Put the finish you want on it. I suggest a sanded finish, but if you insist on sandblasting, that's OK. Get the panel anodized and dyed the color you want. Black works well for me. Coat the panel with photoresist; I use Shipley AZ-111S, which is probably very similar to what comes in the little hobby spray bottles. It develops in 0.3M NaOH, which happens to also etch the anodize layer off of aluminum. Create your artwork; you can get a good quality 1:1 negative made by most litho shops. Expose the panel through the artwork and develop the image. I put little "puddles" of developer on the areas I know have image. Where light struck the panel (with "positive" photoresist) is where the bare aluminum gets exposed.

If you want to see examples of this, if you can find a db Systems preamp or tone control box, it will have a panel on it that I most likely made.

If you want to get fancy, you can develop the image and bake the photoresist on and run the panel back through another anodization step, dying the lettering a different color, but you are on your own with this!

I've found that 2024-T3 alloy works best for dark blacks that are a thin layer (and therefore easy to get very clean graphics etched into). However, VERY few anodization houses can do a good job with it! Too bad.

This technique works best for aluminum-colored graphics on a dark background. You can also get special photosensitive graphic arts films from art supply houses. Some have an adhesive backing; you just stick them to your panel. Various color combinations are possible. I'm pretty sure 3-M is a manufacturer of such stuff.

--
Cheers,
Tom
tomb@lsid.hp.com

2415. Xmtr Xtal Info Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: toyboat@freenet.edmonton.ab.ca
Message-ID: <4ko0vf$asa@news.sas.ab.ca>
Source record: 106043

-- Can anyone out there help me out with this? I want to order some
fundamental frequency crystals to use in a variety of tube-type
80m and 40m CW transmitters of the two stage variety. I gathered
the schematics for these as-yet unconstructed rigs from 50's and 60's
articles in QST magazine.

These simple rigs generally run about 350 VDC to both oscillator and
amplifier. The plate input ranges from 10W to 35Watts at the amplifier.
The oscillator stage in most designs is a Pierce or grid-plate type.

I received a brochure from Jan Crystals in the mail. However, I am
not technically knowledgeable enough to know what to specify. I do
know that these older designs subjected the crystal to more stress, if
that is the correct word, and that the crystal could be fractured if
it is not made to the correct specs.

In the articles I gathered, they refer to the crystal required as
simply a fundamental frequency amateur crystal. Jan offers an FT 243
mount amateur crystal, described as: 32pF load capacity, + or - 50PPM
tolerance @ 25 degees C.

Is this what I should order? Jan's ordering instructions say that I
should specify: 1)series/parallel resonance
2)Oven or non-oven
3)frequency
4)Holder type
5)Tolerance in PPM
6)Crystal load capacity

What would a full description be for basic, old-fashioned, fundamental
frequency amateur crystals for what I have described? I would also like
to try building a power oscillator one-tuber of 15 watts input and
would want the crystals to function in this as well.

This was a simple process, I guess, in simpler times. It seems to be
confusing with only basic knowledge today.

Thankyou in advance for any advice or insight on this.

Shane

```
/|
/ |
/__|
______|_____
\ /
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

toyboat@freenet.edmonton.ab.ca

2416. Antenna for sat. sub audio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: ederdial <esteel@mds.com>
Message-ID: <4ko6v1$chi@mds1.mastnet.net>
Source record: 106044

I am intrested to know if an antenna can be constructed (other than a dish) to receive the sub audio signals with a TVRO receiver.
Any help on this would be apreciated.
THANKS EDERDIAL

2417. Re: ! Attention Software Authors !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: malezet@MicroNet.fr
Message-ID: <4ko91n$dj6@chleuasme.francenet.fr>
Source record: 106045
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radi

In article <NEWTNews.829091616.3336.amsoft@amsoft>, amsoft@epix.net says:
>
>
>ATTENTION AUTHORS OF AMATEUR RADIO, SWL, AND ELECTRONIC SOFTWARE!
>
>If your software is shareware, freeware or public domain, AmSoft
>would like to include your software in our publication of The
>World of Ham Radio CD-ROM. If you only have a commercial version
>you may want to think about a shareware version with registration.
>Most authors have had good returns on registrations from the first
>year of publishing thier software on this CD-ROM. If 50 users
>registered your program from our CD-ROM publication, what would that
>convert to in income for you? Please give this some thought and let
>us here at AmSoft know if you would like to publish your works on
>the AmSoft CD-ROM. If you decide to publish on our CD please
>upload your software to our FTP site and send me an E-Mail letter of
>authorization to publish your software on the AmSoft CD-ROM.
>
>NOTE: DEADLINE FOR NEXT CD-ROM IS APRIL 29, 1996
>
>The FTP site is HAMSTER.BUSINESS.UWO.CA directory /PUB/AMSOFT
>
>
>
>
I give you authorization to publish my software on the AmSoft CD-ROM.
The FTP site of this software is ftp.ucsd.edu
Directory :"/hamradio/packet/tcpip/incoming "
The name is CWMSTXRX.ZIP and CWMSTXRX.TXT

Jean-Pierre MALEZET F6FLV

2418. WHERE CAN I GET PLANS FOR QUAD ON INTERNET

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: billp8@atl.mindspring.com
Message-ID: <316fa818.4610404@news.atl.mindspring.com>
Source record: 106046

Please, can any tell me where I can get plans for homebrewing a quad antenna.

Thanks.

~~~~~~

Bill <billp8@atl.mindspring.com>
Marietta, Ga.
================== THIS TOO, SHALL PASS ==================
~~~~~~

2419. Re: Questions about SAW devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: Rik Slingerland <rik@iaehv.nl>
Message-ID: <4kokq2$qpm@news.IAEhv.nl>
Source record: 106047

Kelly McArthur <Kelly_Mcarthur@ccm.jf.intel.com> wrote:
>
> I just read an article that briefly described the use of SAW (Surface Acoustic Wave)
> devices in simple, low-cost RF transmitters. Apparently, they are available both
> as filters and resonators, for frequencies in the hundreds of MHz.
>
> I'm interested in short-range RF data transmission via simple, inexpensive links,
> and these seem like they might be a good alternative to the LC circuit's stability
> problems, or the complexity of crystals with frequency triplers, etc. I was
> also wondering if the SAW resonators are pullable, for FM or FSK transmission
> schemes?
>
> If anyone can help with info on Manufacturers and Data Sheets, Distributors and
> Application Information, I would be very interested. Thanks!
>
> Kelly_McArthur@ccm.jf.intel.com
> --
> "Personally, I don't enjoy working with lawyers. If you hire them, you have
> to pay them. If you pay them, they eat. If they eat, they breed... you get
> the idea. It's a viscious circle."
>
> -J.R. "Zoom" Campbell
> --
>
Please be more specific: the cheapest SAW filters cost close to nothing and are used
in TV set. However, they are for HAMS close to not valuable as well.
They are not tunable, because they work as follows (don't catch me on
details, I'm not a pro):
a sound wave is made in a piezo crystal be putting voltages on a set
of stripes on the piezo crystal (btw: all crystals are piezo's!).
Just like in an antenna for VHF resonators (thus: metallic stripes)
are put on the crystal to 'filter'. Later-on such a set of stripes is
used for receiving the mechanical wave and converting it to electrical
signals again.
This also points to a weakness of these filters: the losses are in most
cases rather large.
I hope I'm understandable and correct.

Bye,

PE1BIZ

2420. Re: How to setup an dual computerlink via radio. Is it possible ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: cheshire@ridgecrest.ca.us
Message-ID: <cheshire.127.0026946A@ridgecrest.ca.us>
Source record: 106048
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <4ka50g$pc5@shore.shore.net> jjmartin@shore.net (JJ Martin) writes:
>From: jjmartin@shore.net (JJ Martin)
>Subject: Re: How to setup an dual computerlink via radio. Is it possible ?
>Date: Mon, 08 Apr 1996 07:32:17 GMT

>>moritz@ipers1.e-technik.uni-stuttgart.de wrote:
>>>
>>> Franky Noten <Franky.Noten@ping.be> wrote:
>>>
>>> >I would like to setup an link between 2 computers.
>>> >What's the maximum speed I can transmit on ?
>>>
>>> The speed of light.

>Then came the term VELOCITY FACTOR. Where velocity factor, "v", is
>expressed as a percentage by :

> v = 100c' / c

>where c' represents the speed of propogation in a particular
>substance, and c is the speed of light in a perfect vacuum. Both c'
>and c must be specified in the same units. -Amateur Radio Encyclopedia

>-73 de wk1v

GEEEEEZZZZZZ !!! all he asked was what time it was.........

2421. Re: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <4kom65$889@news2.inlink.com>
Source record: 106049

n2ucn@wa2soc.ampr.ORG (Charles Curtis) wrote:

>> I do my boards by printing with a laser onto mylar film, the stuff
>> people used to do drafting on. It makes a big difference having a
>> high resolution laser. 600dpi works very well. Print it out so that
>> the toner side will be against the board and expose to the UV to cure
>> the resist. It seems to work very well and is sharp enough to make
>> surface mount boards with.
>>
>> Lyndon

I havn't tried this, but it may work. Crayola company makes a color
transfer paper and program that reverses your picture and places it on
this carrier. It is used to make color pictures, right side out, out
T-shirts, gym bags, etc. Did you ever give it a thought?

TTUL
Gary

2422. Re: Homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr13.171944.25525@ke4zv.atl.ga.us>
Source record: 106050

In article <4kl4dn$cgn@newsbf02.news.aol.com> kn5s@aol.com (KN5S) writes:
>I am in the process of switching internet connections, so for a few days I
>receive this newsgroup on both AOL and Netscape.
>
>The strange thing is, that the messages I receive are different. Some
>arrive only via one connection, some via the other, and some on both, but
>often at very different times, sometimes a day apart.
>
>Can anyone explain this?

Sure. Usenet is a cooperative of servers located throughout the world.
Each exchanges posts with at least one other. Eventually every server
in the system gets all posts (unless there was a communications failure
somewhere in the forwarding net). Because each post may take a different
path through the forwarding net, different servers will receive the post
at different times. Some servers only forward to their partners once a
day, so the delay can be substantial if many servers have to be traversed.

There is no central control or central plan. Usenet is a chaotic system,
and connections are at the whim of individual system administrators. So
there can be routing loops and routing stubs, IE some parts of usenet
may be unreachable from other parts of usenet. So not all posts make it
to all servers. To avoid that, most usenet servers have multiple forwarding
partners scattered widely across the net so that if one route is a stub,
another will not be, and the posts will propagate. This often leads to
many duplicate posts arriving at a given server, but the news server
software detects this and deletes duplicates automatically so that the
user should only see the post once on a given server.

If you read news on more than one server, you'll see the same articles
again, though perhaps not in the same order or at the same times. This
is a natural result of the way the system operates. If you see a post
on one server but never on the other, that may mean there's a routing stub
somewhere in the path of the one who didn't get it. The server administrator
might need to establish another forwarding link with another partner in
a different part of the net to avoid that happening in the future. Or it
could be that the news software gagged while processing one batch of posts
so that group of posts never appeared on the server. It happens from time
to time that a batch is corrupt, or the machine processing it hiccups
at the wrong time. There is no assured delivery mechanism in usenet.

Note: usenet and internet are not synonyms. While today much of usenet
traffic is forwarded over internet links, not all of it is. Some still
travels by uucp links, or moves over other networks by other means.
Usenet is a *virtual* network, riding atop other real hardware networks,

some centrally planned, some ad hoc.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2423. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr13.172317.25604@ke4zv.atl.ga.us>
Source record: 106051

In article <Dpr0x0.67G@alchemy.chem.utoronto.ca> fbures@alchemy.chem.utoronto.ca (Frank Bures) writes:
>
>I would very much appreciate any advice on how to create silk-screen-like
>panels.

Create and use a real silk screen. I know of no better method, and it
is not hard to do. If you can make a PC board, you can make a silk screen.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2424. Re: YAESU FT-200 Help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: Gerald Caouette <ve6nap@oanet.com>
Message-ID: <316FDF66.6FD4@oanet.com>
Source record: 106052
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb

George Harris wrote:
>
> Hi Everyone,
> My Friend has an Yaesu Ft-200 Radio and is looking for a
> possible modification to include 11 meter capability. Does anyone
> know of such a modification. All answers are appreciated.

George

You mean recieve only " RIGHT "

Would not want your "FRIEND" to go astray of the law, eh!

Although the licence requirements for the 11 M bands are
very lax, there is one thing that the law requires and that
is the transmissions are below very specific power levels and
on assigned frequencies. Failing to comply may bring a complaint
and then the respective departments in the government react
swiftly , and harshly. It can be very expensive and in some
cases accomodation is provided by the state for various periods.

I believe I have seen your posts on other matters in the past,
that have raised some disscussion. Perhaps take the time and
read the regulations and laws set out by your government and
the international agreements that make the world of radio
communications possible..

If you don't have the technical skills to know how to modify the
radio, I doubt if you would have the skill to ensure that you
could meet and maintain, all the requirements to have the radio
type accepted for use in the 11 M band....

There is nothing wrong in learning how, but I would suggest you
limit the mod to recieve only.

If your are serious about learning how the FT200 works and
require manuals and schematics, I can provide you with a
photo copy.

GERALD G. CAOUETTE
ve6nap@oanet.com

2425. Re: Xmtr Xtal Info Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr13.174542.25817@ke4zv.atl.ga.us>
Source record: 106053

In article <4ko0vf$asa@news.sas.ab.ca> toyboat@freenet.edmonton.ab.ca () writes:
>
>
>-- Can anyone out there help me out with this? I want to order some
> fundamental frequency crystals to use in a variety of tube-type
> 80m and 40m CW transmitters of the two stage variety. I gathered
> the schematics for these as-yet unconstructed rigs from 50's and 60's
> articles in QST magazine.
>
> These simple rigs generally run about 350 VDC to both oscillator and
> amplifier. The plate input ranges from 10W to 35Watts at the amplifier.
> The oscillator stage in most designs is a Pierce or grid-plate type.
>
> I received a brochure from Jan Crystals in the mail. However, I am
> not technically knowledgeable enough to know what to specify. I do
> know that these older designs subjected the crystal to more stress, if
> that is the correct word, and that the crystal could be fractured if
> it is not made to the correct specs.

Right. The old circuits tended to have more crystal current than newer
solid state designs (and more voltage applied to the crystal too). That
leads to more heat, and tiny crystals can fracture, not to mention drift.
Also be cautious of applying DC to the crystal, that can fracture it at
turn on too.

> In the articles I gathered, they refer to the crystal required as
> simply a fundamental frequency amateur crystal. Jan offers an FT 243
> mount amateur crystal, described as: 32pF load capacity, + or - 50PPM
> tolerance @ 25 degees C.
>
> Is this what I should order?

Yes.

> Jan's ordering instructions say that I
> should specify: 1)series/parallel resonance
parallel
> 2)Oven or non-oven
non-oven
> 3)frequency
Frequency of operation
> 4)Holder type
FT-243
> 5)Tolerance in PPM
+/- 50 ppm

> 6)Crystal load capacity
32 pf
>
> What would a full description be for basic, old-fashioned, fundamental
> frequency amateur crystals for what I have described? I would also like
> to try building a power oscillator one-tuber of 15 watts input and
> would want the crystals to function in this as well.

This latter is tricky even with big old FT-243 crystals. You need a tube with a high gm, and *lightly* couple the crystal to it to reduce crystal current to the minimum possible that still results in positive frequency control.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2426. 2GHz EME-ers wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: webb@ultranet.com
Message-ID: <webb-1304961436230001@d13.lowell.ma.ultra.net>
Source record: 106054

I would like to correspond with hams active in 2GHz (or similar) EME. I
plan on doing some experimenting with a 6-ft TVRO dish.

--
-Spencer Webb
webb@ultranet.com

PGP public key available at web page
"http://bs.mit.edu:8001/pks-toplev.html",
or e-mail server "pgp-public-keys@pgp.mit.edu"

Key fingerprint = 42 9A E3 8A 83 15 B4 61 D4 92 4E 96 CB 2F 05 FB

2427. WTB IC 745

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: sfritts@usit.net
Message-ID: <4kovas$2cf@news.usit.net>
Source record: 106055
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I am looking for a clean, non-smoker Icom 745. Please e-mail
sfritts@usit.net

Thanks, Steve WA4GZE

2428. Re: Xmtr Xtal Info Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4ko4bs$knu@news.calweb.com>
Source record: 106056

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>In article <4ko0vf$asa@news.sas.ab.ca> toyboat@freenet.edmonton.ab.ca () writes:
>>

parts snipped out

>> I would also like
>> to try building a power oscillator one-tuber of 15 watts input and
>> would want the crystals to function in this as well.
>
>This latter is tricky even with big old FT-243 crystals. You need a tube
>with a high gm, and *lightly* couple the crystal to it to reduce crystal
>current to the minimum possible that still results in positive frequency
>control.
>
>Gary
>--
>Gary Coffman KE4ZV

A common problem with the one tube cystal oscillator/transmitter was
trying to get the most power and as a result breaking the crystal.
You also get frequency drift from the cystal heating.

SO go ahead with the one tube transmitter but don't try to get
too much power.

Bill K7NOM

2429. Re: 6146 tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: wdmilner@atcon.com
Message-ID: <4kp54b$s27@thor.atcon.com>
Source record: 106057

rsill@cyberportal.net wrote:

>Does anybody know what the differences are between a 6146B and a 6146W transmitting tube?

The 'W' was a ruggedized version for militray use. Some people have
reported lower plate dissipation but I haven't noticed any. They are a
better option for continuous mode use (eg. rtty).

73, Dean

Dean, VE1CBF VE1CBF@VE1CBF.ns.ca
wdmilner@atcon.com FN96VC

- - ... ... - -

2430. Re: Need schematics for Linear Amp. (600 watt)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: qwick@???????.com
Message-ID: <4kp7du$j16@nntp.interaccess.com>
Source record: 106058

Dave Perkins <dperkins@cts.com> wrote:

> Me and my step-dad want to build a linear amp but we need to know what
>parts to get and schematics on it...If anyone has any of the above or
>maybe and article from QST on how to build one, please let me know..
>
> Please email me (I rarely check the newsgroups)
> Any help would be greatful

> Thanx again
> Dave

I'm a Computer Enginering major and for a project, I'd like to build a
CB linear. Thus...
I'd like the same info if possible... ecgorski@interaccess.com
Thanks

2431. 1. Need Help With RFI Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: Mike Hatzakis <71251.1124@CompuServe.COM>
Message-ID: <4kpd74$q2o$1@mhafc.production.compuserve.com>
Source record: 106059
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Have RFI problem from my Icom 735 radio and 20 meter dipole in attic.

My and my neighbors Stereo equipment and her sound system on her computer
are the biggest problems

My stereo has signals that are loud. I tried putting LC filters in the speaker
leads, no dice, disconnected them and still have loud signals. My theory is
it is the line (110v). When I raise the volume, the interference gets a bit lower and
audio comes in over the interference, but the interference does not increase in
volume with the volume control with headphones only hooked up to stereo.
My Computers sound system also has noise.

My antenna is in the attic with many 110 v power wires. I also get interference
to my computer sound system and the stereo itis hooked to.

Could RFI be getting into my line ???? Can I put toroids into all the AC lines ???
What are the typical cures for this ??? Is there a book on RFI, ie., like the
Antenna book or handbook ??? Any other tests to try to diagnose the problem ???

Please help, I am really excited about having the time to get on HF now...

Mike WB2TBQ

Reply to this message or to:
71251.1124@compuserve.com
or hatzaki1@jeflin.tju.edu

2432. Re: Question: Xtal Grinding Technique

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4kpee2$5p9@cc.iu.net>
Source record: 106060

In article <4kfro8$rvp@crash.microserve.net>, jackl@pinetree.microserve.com says...
>
> rmwatson@eskimo.com (Robert Watson) wrote:
>
>>You take a sheet of aluminum foil and lay it down on the workbench,
>>and upon the top of the aluminum foil you lay a sheet of glass. You
>>take some jumper wires and connect one end to the aluminum foil, and
>>the other end to the center conductor of your receiver. You then take
>>the receiver and tune in to the "target" crystal frequency. You then
>>begin to grind the crystal, (using Comet and water, or some other
>>recommended abrasive, in the figure-eight pattern), and while you are
>>grinding, you will begin to hear the oscillation of the crystal
>>through the receiver.
>
>I ground a lot of crystals in my Novice days, but I never heard of
>this. Makes sense though - the crystal generates a voltage under
>stress, and it stands to reason that it might emit its natural
>frequency during the grinding process. The only thing I would wonder
>is whether the liquid coating the crystal might not reduce its
>frequency somewhat while you're actually grinding it. Neat idea
>though!
>
>Incidentally, its usually not possible to move the crystal too far
>without a considerable reduction in activity. I ruined a lot of
>FT-243 crystals like that. :(
>
>73,
>Jack WB3U

Last august, I had the chance to visit one of the big names in crystal/ oscillator production, Piezo Crystal in Carlisle, PA. This was on a business trip and we were given a tour of their production facility.

Piezo produces their own blanks from quartz crystals, and the first step in the grinding process is to lap the crystals to approximate thickness. This is done by monitoring the frequency at which it produces noise on a nearby general coverage receiver. During rough grinding, the output is rough, raspy noise, and they stop with the frequency still lower than the desired. As they go through progressively finer grade abrasives, the sound becomes progressively more clean until at the polishing stage, it sounds more like a CW note. Final frequency setting is done with more exact methods.

But, yes, the grinding of a crystal produces mechanical forces that cause electrical noise and you can hear them on a receiver with a small

antenna. One of the coolest things I've ever had the chance to observe.

73,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

2433. Re: Help: need altimeter device for ham balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: Steve Bunch <srb@cu-online.com>
Message-ID: <3170804C.33B5@cu-online.com>
Source record: 106061

Brian wrote:
> Me and a few of the local hams are putting together an Amateur Balloon
> ...
> I have completed the temperature sensors and i am looking for a way to
> determine the altitude of the balloon (low cost needed) I have heard
> of a few chips or rather modules by motorola that do this. If anyone
> can help we would be most greatful.
>
> Thanks Brian McClure (N8PQI)
> email: acc@pobox.com
> phone: 304-746-0448

Motorola has a data book which you should get a copy of.
It's the "Sensor Device Data" book, document DL200/D. The
copy I have is Rev. 2, dated Q2/95. There could be a later one.
A local Motorola Semiconductor sales office or dealer should
be able to get this for you. The Richmond, VA, sales office
phone number is 804-285-2100. They should also be able to point
you at suppliers who stock the sensors (but don't be shy about
requesting a free sample, after describing what you plan to use
it for -- worst case, they'll say no).

In addition to the data sheets, the book has application notes
which describe how to interface the sensors to things like a
microprocessor.

Good luck on your project.
--
Steve

Steve Bunch, KB9LLG

2434. Re: Antenna for sat. sub audio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDpv5nA.3sM@netcom.com>
Source record: 106062

in <4ko6v1$chi@mds1.mastnet.net>, ederdial wrote:
: I am intrested to know if an antenna can be constructed (other than a
: dish) to receive the sub audio signals with a TVRO receiver.

No such luck. For C Band, your typical transmit power is 15 watts or so over a 20 MHz bandwidth from 20,000+ miles away. I once computed the voltage at the input to the LNA as something like 7 microvolts, using a 10-12 foot dish. For Ku band, your antenna scales with the signal's wavelength, and the satellites are more powerful, so your dish can be smaller.

You need a lot of gain, and antenna with a narrow enough beamwidth to selectivly pick up a satellite operating on the same frequency as another one only 2 to 3 degrees away.

That means a dish. Or if you're a genius, a phased array that would be even bigger.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2435. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-13 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDpv5n8.3rw@netcom.com>
Source record: 106063

in <Dpr0x0.67G@alchemy.chem.utoronto.ca>, Frank Bures wrote:
: I would very much appreciate any advice on how to create silk-screen-like
: panels.

See if you can find a copy of "Electronic Prototype Construction" by
Stephen B. Kasten. A 10-15 year old book from Sams, back before
the computers books took over.

Or check out the local silkscreen suppliers. That's a large and
diverse industry with a mind boggling selection of materials.
Try to find a place that supplies the local sign shops and tee
shirt makers. At least around here (Seattle) the local art supply
shops don't have anything above the level of dabblers, while the
local sign supply place has a 3/4 inch thick catalog with all sorts
of epoxy inks and plating resists.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2436. ICOM 2340H radio wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: mhodges@uceng.uc.edu
Message-ID: <4kpuoq$h7s@uceng.uc.edu>
Source record: 106064
Cross-posted to: rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Looking for the above mentioned radio. If you have one please e-mail me
at the above address. Thanks.

Mike

2437. Newsgroup trouble

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: Mark Mandelkern <kn5s@lascruces.com>
Message-ID: <4kq9cl$g8e@chile.lascruces.com>
Source record: 106065

I wrote >Can anyone explain this?

Gary, KE4ZV, wrote >Sure. Usenet is ...

Thanks, Gary. What a great explanation. I thought I had pushed
the wrong button.

I don't know, Gary. I was happy most of the century with s-mail.
I am being dragged into the information age kicking and screaming.

73, Mark KN5S

2438. Solar Cells Efficiency?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: flanders@znet.groupz.net
Message-ID: <4krn8k$hps@news1.sunbelt.net>
Source record: 106066

Last September, I bought three unused 12" x 24" PV panels at a hamfest in NC. They were unmounted, just the glass panel with the bare metal coating on the back. I was told they were rated at about 900 mA at about 18 volts each.

I have finally gotten around to actually connecting electrodes and testing them out. The first one only put out about 250 - 275 mA in bright SC sunlight yesterday (charge current into a 12 v lead-acid battery, with an isolating diode in the circuit (same without the diode - I checked).

I thought that perhaps the first one was bad, so last night I wired up

connectors to the remaining two and tested them out today. Same thing - about 250-275 mA each. Right now, all three are going, with a separate isolation diode for each, charging a total of about 800 mA in full sunlight. I briefly shorted the three while connected together, and measured only about 1 amp total (about 27V open circuit).

Keep in mind that I am talking about 6 square feet of collector area, and there is as yet no protective glass or cover of any kind. Quickie rough calculations tell me my efficiency seems to be way down.

Any comments? What charge current do you guys get per square foot with PV cells? They have been unused for a long time - any reason to expect

improvement in the future? Maybe I just got rejects - would rejects be as consistent as this? Do rejects deliver low current, or low voltage, or what?

Jerry W4UKU flanders@groupz.net

2439. Need Hp-8410A and 8411

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4kqvt0$7iu@newsbf02.news.aol.com>
Source record: 106067

Need 8410A and 8411. Other options like 8414 and 8741 will be considered.
Thnks beforehand.
Vince

2440. Homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: dbs@accucomm.net
Message-ID: <4krjdd$m74@pine.accucomm.net>
Source record: 106068

Anybody doing any homebrew stuff on 2m these days?

2441. CTCSS decode with DSP??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: mattro@radware.net
Message-ID: <N.041496.143055.23@ppp0017.radware.net>
Source record: 106069

Hi!

I'm working on an amateur project with DSP, in which a part will be to decode a PL tone from
receiver audio. At this point I am inclined to use a phase-locked loop emulated by software.
Has anyone worked with this type of project before, perhaps something similar used for DTMF? I'd like to hear from you!

Matt Roberts, KK5JY,
mattro@radware.net

2442. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4krou5$p23@cc.iu.net>
Source record: 106070

In article <1996Apr9.165639.3746@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us says...
>
>In article <Pine.SUN.3.91.960408130307.10621A-100000@oak.liii.com> Christopher
Comeaux <impulse@oak.liii.com> writes:
>> I am wondering about the feasibility of the following scenario: A
>>person gets his boat wrecked on an uninhabited island nearby Hawaii.
>>He has no electricity, but lots of wire from his smashed up boat.
>>He uses it to make a directional antenna that is pointed toward

stuff deleted...

>>have the slimmest chance of getting the person rescued; or can anyone
>>think of another possible example of "powerless communication"?
>>
>>CC/Impulse/N2QMU
>
>I don't think it would have a prayer of working. The passive antenna
>would reradiate too little signal to have a noticable effect on an
>FM receiver at a distant location. Remember that the FM receiver
>has a limiter that saturates on the desired signal so your very
>tiny reradiated signal would be swamped. Only if you could introduce
>enough signal to generate significant multipath would there be detectable

more stuff deleted...
>
>In the latter vein, if all you can generate is a very weak signal,
>put it where it'll be the most annoying, where the weakest signals
>are received. In that regard, be aware of what frequencies radio
>astronomers monitor.
>
>Gary
>--
>Gary Coffman KE4ZV | You make it, | Due to provider problems
>Destructive Testing Systems | we break it. | with previous uucp addresses
>534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
>Lawrenceville, GA 30244 | |

In this latter vein, I'd always heard the way to get the fastest notice
from the FCC (put another way, to be the most annoying) was to put out a
signal on the aviation distress channels.

That way you have _two_ government agencies, neither one known for their
excellent sense of humor, trying to find you and make you stop. Might be
just the thing if you were shipwrecked.

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

2443. Micronauts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: Greg Lohstroh <glohst1@grfn.org>
Message-ID: <Pine.SOL.3.91.960414173929.3933A-100000@freenet.grfn.org>
Source record: 106071

I read an article in April 96 Issue of CQ about a low power transmitter
that they call the "Micronaut" I'm looking for the coil form for L2,it's
a T-50-2 core,can this be improvised? where would I order one? I checked
Mouser,Newark...no luck,any help would be appreciated!
Thanks.

2444. Re: Solar Cells Efficiency?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <19960414180210OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 106072

>Last September, I bought three unused 12" x 24" PV panels at a hamfest
>in NC. They were unmounted, just the glass panel with the bare metal
>coating on the back. I was told they were rated at about 900 mA at
>about 18 volts each.

"glass panel" implies to me ("cells" are build by thin layers on
the back side of the glass) that you have amorphous silicon cells
which are about 1/2 as efficient as crystalline cells.

I was playing with one 12" x 12" today, about 17 V open circuit
and about 200 mA short circuit (was also doing about 13+V into a
165 ohm resistor).

>I have finally gotten around to actually connecting electrodes and
>testing them out. The first one only put out about 250 - 275 mA in
>bright SC sunlight yesterday (charge current into a 12 v lead-acid
>battery, with an isolating diode in the circuit (same without the
>diode - I checked).

>together, and measured only about 1 amp total (about 27V open
>circuit).

Really 27V open circut? Wow, how many cells are in series for that?
Perhaps they aren't designed for 12 Volt output, rather 24 V?

So if you used a switching (stepdown) regulator, 24 to 27 volts
in and 13 volts out (at about double the current) you'd have
twice the power going in to your batteries (rather than just
wasting it the extra voltage...)

>Keep in mind that I am talking about 6 square feet of collector area,

sunlight is about 1000W/sq yard -> 1000W/9 sq ft 111W/sq ft. A
book says these are about 6% efficient so perhaps you should get
12W / panel. At 24 volts that would be 500 mA each. Your panels
sound close to this (all very very approx...).

2445. Re: WHERE CAN I GET PLANS FOR QUAD ON INTERNET

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: AC6V <ac6v@ix.netcom.com>
Message-ID: <4kqtfj$6uo@dfw-ixnews4.ix.netcom.com>
Source record: 106073

billp8@atl.mindspring.com (Bill Poston) wrote:
>Please, can any tell me where I can get plans for homebrewing a quad
>antenna.
>
>Thanks.
>~~~~~~
>Bill <billp8@atl.mindspring.com>
>Marietta, Ga.
>================== THIS TOO, SHALL PASS ==================

Take a look at Bill Orr's (W6SAI) Book -- "All About Cubical Quads".
Should be available at your local Ham Store.

Highly recommended.

--
****
Hark! I Have Hurled My Words To The Far Reaches Of The Earth!
What King Of Old Could Do Thus ? --- AC6V
****
A Man May Know Of The World Without Leaving The Shelter Of His
Own Home!
Loa-Tsze
****

2446. Re: 1. Need Help With RFI Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: AC6V <ac6v@ix.netcom.com>
Message-ID: <4kquoh$fdd@dfw-ixnews5.ix.netcom.com>
Source record: 106074
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Mike Hatzakis <71251.1124@CompuServe.COM> wrote:
>Have RFI problem from my Icom 735 radio and 20 meter dipole in attic.
>snip snip
> Is there a book on RFI, ie., like the
>Antenna book or handbook ??? Any other tests to try to diagnose the problem ???
>
>Please help, I am really excited about having the time to get on HF now...
>
>Mike WB2TBQ
>
>Reply to this message or to:
>71251.1124@compuserve.com
>or hatzaki1@jeflin.tju.edu

Hi Mike. There is WWW page on interference problems from the FCC: Goto URL

http://www.fcc.gov/Bureaus/compliance/www/tvibook.html

Or using a search engine -- search for FCC page.

My 1996 ARRL Handbook for Radio Amateurs has lots of info.
Drop bye ur local Ham Radio Store -- have seen several books devoted to
the subject.

Pick up QST and look at the publication page for an Interference Handbook.

Hope this helps

73
Rod
--
****
Hark! I Have Hurled My Words To The Far Reaches Of The Earth!
What King Of Old Could Do Thus ? --- AC6V
****
A Man May Know Of The World Without Leaving The Shelter Of His
Own Home!
Loa-Tsze
****

2447. Re: Need schematics for Linear Amp. (600 watt)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: rs@ham.island.net
Message-ID: <1q5DmD1w165w@ham.island.net>
Source record: 106075

qwick@???????.com (Qwick) writes:

> I'm a Computer Enginering major and for a project, I'd like to build a
> CB linear. Thus...
> I'd like the same info if possible... ecgorski@interaccess.com
> Thanks
>

CB linears are certainly illegal to use in the USA and Canada, so it's
unlikely anyone here is going to tell you how to break the law.

On the other hand, amateur radio operators may build all sorts of
amplifying equipment and use it quite legally in the amateur bands.
May I encourage you to visit a local ham club and see how easy it would
be to get a license to do this sort of thing first?

73, Bob VE7HS

rs@ham.island.net __|
Robert Smits _/. |\
(VE7HS) CQ CQ CQ !!! < (0)
_ /__ |
( ) <_______/
\ \/ __

2448. Re: 1. Need Help With RFI Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-14 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <4kpih2$qle@excelsior.flash.net>
Source record: 106076
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Mike Hatzakis <71251.1124@CompuServe.COM> wrote:
>My antenna is in the attic with many 110 v power wires. I also get interference
>to my computer sound system and the stereo itis hooked to.

>Could RFI be getting into my line ???? Can I put toroids into all the AC lines ???
>What are the typical cures for this ??? Is there a book on RFI, ie., like the
>Antenna book or handbook ??? Any other tests to try to diagnose the problem ???

>Please help, I am really excited about having the time to get on HF now...

>Mike WB2TBQ

Mike,
It's gonna be tough with an attic antenna. Put toroids on
everything - speaker leads and a.c. lines. Sometimes a small disc
ceramic (about 0.01 or so) across the speaker leads on the stereo will
help. Don't use anything bigger, it will affect the audio and maybe
the impedance the amp sees. Same thing for the computer speakers.

You might try qrp, I've been working the contest this evening and
am working all over the country on 5w! Not bothering my wife's tv
either!
73,
Kerry
WD5ABC

2449. ** FLEA at MIT ** Sunday 21 April Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: w1gsl@athena.mit.edu
Message-ID: <4ksuc9$33o@senator-bedfellow.MIT.EDU>
Source record: 105979
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,rec.radio.amateur.homebrew

Spring Has Sprung so it time for the seasons first...

We have a new larger lot just 4 blocks West of our old location...

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COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
April 21st, 1995
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
April thru October.

There is tailgate space for over 400 sellers and
free, off-street buyers parking!

Buyers admission is $4 (you get $1 off if
you're lucky enough to have a copy of our ad)
and sellers spaces are $10.00-each at the gate.

The flea will be held at the corner of Pacific and
Landsdowne streets in Cambridge; half a block off
Albany St near Central Square from 9AM to 2PM,
with sellers set-up time starting at 7AM.

!! RAIN or SHINE !!

Talk-in: 146.52 and W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
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MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ************

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

2450. Re: Micronauts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: Bill Meara <w.meara@codetel.net.do>
Message-ID: <4ktbcd$9iv@server2.codetel.net.do>
Source record: 105980

Greg: You can't improvise here. Order the core from Palomar Engineers, Escondido California. (Sorry, the box didn't have any more address info - check the ham mags). they sell a neat little "Experimenter's Kit" with a variety of frequently used Toroidal Cores. 73 and Good Luck. Bill

2451. Re: New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: Mark Mandelkern <kn5s@lascruces.com>
Message-ID: <4kt0ct$6qo@chile.lascruces.com>
Source record: 105981

Re: New Svetlana Trasmitting tubes

Any of the 4CX1000A designs should work well with the Svetlana
4CX1600B. There have been several designs in the ham magazines.
I use one 4CX1000A in a 1.8 to 54 mc amp and one on 144 mc. These
tetrodes are all similar, and the circuit need not vary with the
tube mfgr.

73, Mark KN5S NM

2452. Re: New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: Mark Mandelkern <kn5s@lascruces.com>
Message-ID: <4kt0dm$721@chile.lascruces.com>
Source record: 105982

Re: New Svetlana Trasmitting tubes

Any of the 4CX1000A designs should work well with the Svetlana
4CX1600B. There have been several designs in the ham magazines.
I use one 4CX1000A in a 1.8 to 54 mc amp and one on 144 mc. These
tetrodes are all similar, and the circuit need not vary with the
tube mfgr.

73, Mark KN5S NM

2453. RE: schematics for VHF amp using 2c39 /

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <3172B809@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 105983

hello peter,

i saw your request for 2m amps using 4cx250/2c39, here some facts:

Do not overstress price and construction needs of transistor and tubes. The things depend on the power level you start with and you want to reach.

for 1-25w input i would say a power module as they are produced by mitsubishi and others is the easiest way to reach 100w (and if you couple two of them even 200w). also the price is not too much.

this is because you did not consider the power supply needed...

First, for the 2c39 you will need a 1000V-1200V supply. biasing is easy as it can be done by a simple zener diode, or better with an adjustable one. maximum output power with a single tube is about 100W-150W.

Second, for the 4cx250 it gets more complicated. first you will need 2000V-2500V anode supply, stabilized 350V for the screen grid and -100V (switchable to adjustable -55V) for the control grid. So this is a complicated triple power supply.

Third, you must think about the cabinet and mechanics. Transistors are mostly easy as they can be assembled to a PCB and are ready to go after that. Tubes always need metal cabinets which are not easy to make without tools.

I am very shure about what I tell you. I use a homemade 2*4CX250 on 70cm, a 2*2*2C39 on 23cm and currently I build a GS35B amplifier for 2m.

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
dl4mea@amsat.org (Internet)
http://www.scn.de/~koellner (WWW)

2454. Re: New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ktfcf$27j@newsbf02.news.aol.com>
Source record: 105984

In article <4ksoea$4re@ccnet2.ccnet.com>, turnerde@ccnet.com (Donald E. Turner) writes:

>I'm considering the construction of a new linear amp using
>the Svetlana 4CX1600B. This is the Russian version of the
>original American tube.

The 4CX1600 is a unique tube made in Russia. It isn't the Russian version of anything ever made anywhere else in the world, especially an "origninal" American tube.

> This tube is very attractive because
>of the low drive requirements, grid driven with a passive
>input circuit.

Don't count on it being easier to use or cheaper and easier to build. The simplest and cheapest amps to build are grounded grid triodes. It will remain that way until someone invents a linear amplifiying device with two terminals instead of three.

I know what you say is what recent articles about that tube say, but remember that information comes from marketing people that **want to sell tubes**.

The truth is this. Grid driven amplifiers faded from the amateur market because they are much more costly and difficult to build. Grid driven amplifiers are more difficult to tune, and generally less compatable with the drive power of amateur exciters. They require expensive regulated and protected screen supplies, and constant attention to screen current and output tuning. None of that has changed, despite what marketing people would have us believe. Right now I'm corresponding with two amateurs who have built 4CX1600 amps, and are having a real time getting them going.

The recent QST piece about the 811A that shamelessly plugged the "4CX1600" should have been a paid advertisement, not a QST article.

> The question is, does anyone have experience
>with the Svetlana transmitting tubes, and more specifically
>with this one. I'm using their 6550C's in an audio amp,
>and they are great. Leave email if you have information.

I understand Svetlana tubes are OK, my only concern is they are being touted as an "easy and inexpensive improvement over grounded grid". In today's world I guess that isn't so bad. In advertising, one out of three is pretty good. They certainly are inexpensive.

73 Tom

2455. Press-n-Peel and Scratched Copper

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: af389@lafn.ORG
Message-ID: <199604151306.GAA12557@zook.lafn.org>
Source record: 105985

Hi,

I am making my first PC Boards using the dry Blue Press-N-Peel film with a common home clothes iron and a Laser Printer. Except for very deep scratches in the surviving copper surface of the etched finished PC Boards, the first three boards looked pretty good and functioned as excepted. First two board required no touch up due to lost toner. Board number three, some toner stuck to PnP film and the board needed toner patch-up before etching.

Just before heating the Press-n-Peel film , I preheat the bare clean unetched copper board by laying the hot iron bottom directly onto thecopper surface. Immediately, scratches appear. The clothes iron surface seems to scratch the new copper. These are fine scratches and not deep. But, after placing the Press-N-Peels film on the hot board, and ironing, the deep circular scores and scratches appear on the unetched copper and can be seen in the toner patterns.

Is anyone else seeing these deep scratches?
How do I avoid these scratches?

Press-N-Peel instructions tell us to use a circular motion when we are heating the film with the iron. After etching, the scratches on the surviving copper show the same circular pattern as I used during heating. The toner still covers the scratches, thus no copper is etched away at the scratches. Looks bad, functions OK.

The clothes iron I used for boards 1 and 2 has a non-stick coating. The botton surface appears free of burrs. But the Press-N-Peel film and the copper show numerous scratches.

I purchased a new clothes iron, this one has an aluminum bottom heating surface, that looks feels smooth. Same problem, just plenty of scratches on the film and on the finished copper surface of the etched board.

I certainly need help with this problem.

What kind of surface is needed on the clothes iron bottom surface to avoid scratching the copper. Press-N-Peel advertises that this can be done with a common house clothes iron. I am sure they expect the final etched PC Board to be scratch and score free. Is there an email address for the Press-N-Peel folks?

Any advise is appreciated.

73 and thanks, Dave W6MIK, af389@lafn.org

Dave Shalita, W6MIK, af389@lafn.org

2456. HF Xmtr plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: Norm Hammar <norm@cqg.com>
Message-ID: <31724651.5DFF@cqg.com>
Source record: 105986

Has anyone recently built an HF transmitter (50-100 watts) that you would be willing to share the instructions? Looking for a project for my son and me to build...and this is what he selected. We would need insructions, parts list and suppliers, and schematics. Thanks
norm@cqg.com

2457. Re: Antenna for sat. sub audio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: markt@proaxis.com
Message-ID: <4ktnsh$l8g@news.proaxis.com>
Source record: 105987

fbures@alchemy.chem.utoronto.ca (Frank Bures) wrote:

>I am soliciting an advice on how to create professionally looking front panels
>of electronic devices.

>Over my 37 years of both amateur and professional prototyping I tried all
>kinds of technologies, none of them with the results I want. E.g.:
>Letraset: Too time consuming, very difficult to keep equal spacing between
>letters, inability to create graphics.
>I even tried PnP Blue to transfer front panel images printed on a laser
>printer. It works _very_ well on Vector aluminum front panels. I does NOT work
>at all on sand blasted panels or pre-painted panels. The toner simply would
>not stick.

>I would very much appreciate any advice on how to create silk-screen-like
>panels.

>Thanks

>Frank Bures, Dept. of Chemistry, University of Toronto, ON
>fbures@alchemy.chem.utoronto.ca
>CompuServe:71324,1515
>Frank_Bures@compuserve.com

Frank,

I worked at a company where the ME would plot a mirror copy of the
screen on clear mylar overlay. The overlay was then placed on the
front panel of the equipment (ink/toner side toward panel). On most
panels it looked good. With the ploter they could do multiple colors
as well.

Have fun,

Mark Trevisiol

2458. Re: 1. Need Help With RFI Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr15.153857.5500@ke4zv.atl.ga.us>
Source record: 105988
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4kpd74$q2o$1@mhafc.production.compuserve.com> Mike Hatzakis
<71251.1124@CompuServe.COM> writes:
>Have RFI problem from my Icom 735 radio and 20 meter dipole in attic.
>My and my neighbors Stereo equipment and her sound system on her computer
>are the biggest problems
>My stereo has signals that are loud. I tried putting LC filters in the speaker
>leads, no dice, disconnected them and still have loud signals. My theory is
>it is the line (110v). When I raise the volume, the interference gets a bit lower and
>audio comes in over the interference, but the interference does not increase in
>volume with the volume control with headphones only hooked up to stereo.
>My Computers sound system also has noise.
>My antenna is in the attic with many 110 v power wires. I also get interference
>to my computer sound system and the stereo itis hooked to.
>Could RFI be getting into my line ???? Can I put toroids into all the AC lines ???
>What are the typical cures for this ??? Is there a book on RFI, ie., like the
>Antenna book or handbook ??? Any other tests to try to diagnose the problem ???
>
>Please help, I am really excited about having the time to get on HF now...

Mike, you've probably pinpointed the problem, coupling between the antenna and the AC wiring in the attic. You need a choke in the AC cords to limit RF access into the affected equipment. You can use toroids or ferrite bars. Just wind several turns of the power cord around or through your ferrites. In some cases bypass capacitors can help too, disc ceramics of about 0.001 uf with a 600 working volt rating will do. (There is potential danger here, and UL may not approve, so use capacitors with caution on AC wiring.) Note, you can also use the cores of flyback transformers salvaged from junk TVs as your forms if you don't have any ferrite bars or toroids.

Now such filters can help, sometimes enough to make the symptoms go away, but a better course is to eliminate the problem at its source, IE get the antenna away from the power wiring. It often doesn't take a lot of distance to make a large improvement. If it isn't already, mount the antenna at the very peak of the attic, as far from the AC wiring as possible. If you can, orient the antenna so that it runs perpendicular to AC wires instead of parallel to them (this can be hard to arrange). Best, of course, is to get the antenna outside and as high as possible.

The FCC prints a pamphlet on RFI causes and cures, but it isn't very technical, oriented more toward the consumer. A better book on RFI causes and cures is offered by the ARRL.

Gary
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2459. Re: Press-n-Peel and Scratched Copper

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: rmc@chem.psu.edu
Message-ID: <4ktpnj$56l@dodgson.math.psu.edu>
Source record: 105989

Dave,
Have you considered your oven? We used a plain old oven set at 400F (200C) for years. It is more even than a clothes iron and will not scratch the board. Put the board in for about 7 minutes, or until it just starts turning purple (the oxidation will not affect the toner adhesion), then remove it and place the pattern on the board and use a rolling pin to roll it down. Works great.
For cleaning the board, we use a Scotch Brite green pad and Comet cleanser, followed by a water rinse, then an acetone rinse. Can't say we've ever seen the scratch marks you refer to.
Good luck.
Bob Crable
Engineering Aide
Research Instruments
Electronics Shop
Chemistry Department
The Pennsylvania State University

2460. QST Conflict of interest again.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ktq9j$54s@newsbf02.news.aol.com>
Source record: 105990

I was dismayed to see an advertisement for a certain tube "hidden" in an article about an 811A in QST.

Readers beware of cases like this, when the person telling the story makes direct profit from the article's conclusions!

What ever happen to good old fashoned editing to avoid direct connection between an article and the author's wallet??

73 Tom

2461. RS-232 Computer Control Interface - For your rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <4ktqhv$u4a@tetsuo.communique.net>
Source record: 105991

If you are thinking about using you PC to control
you ham rig check out my page and the FT-736R CAT
section. The unit shown is usable on all rigs that
require a RS-232 to TTL level converter to control
the rig. Kits include all connectors needed for
connection to Kenwood, Yaesu or Icom rigs and as
well as others.

Check it out ...

http://www.gcr1.com/n5gpi/

73,
N5GPI

2462. Re: Homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr15.154449.5680@ke4zv.atl.ga.us>
Source record: 105992

In article <4krjdd$m74@pine.accucomm.net> dbs@accucomm.net (Dave Stewart) writes:
>Anybody doing any homebrew stuff on 2m these days?

I built a HT based on the MC2833 and MC13135 FM transmitter and
receiver subsystems. Ugly minibox construction, but it works.
And I converted a surplus airways 1 kW AM transmitter to be a
1 kW 2m FM amplifier. Kind of dwarfs the rest of the HT, however.

Gary

--
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2463. Re: Solar Cells Efficiency?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr15.161122.5825@ke4zv.atl.ga.us>
Source record: 105993

In article <4krn8k$hps@news1.sunbelt.net> flanders@znet.groupz.net (Jerry Flanders) writes:
>Last September, I bought three unused 12" x 24" PV panels at a hamfest
>in NC. They were unmounted, just the glass panel with the bare metal
>coating on the back. I was told they were rated at about 900 mA at
>about 18 volts each.
>
>I have finally gotten around to actually connecting electrodes and
>testing them out. The first one only put out about 250 - 275 mA in
>bright SC sunlight yesterday (charge current into a 12 v lead-acid
>battery, with an isolating diode in the circuit (same without the
>diode - I checked).
>
>I thought that perhaps the first one was bad, so last night I wired up
>
>connectors to the remaining two and tested them out today. Same thing
>- about 250-275 mA each. Right now, all three are going, with a
>separate isolation diode for each, charging a total of about 800 mA
>in full sunlight. I briefly shorted the three while connected
>together, and measured only about 1 amp total (about 27V open
>circuit).
>
>Keep in mind that I am talking about 6 square feet of collector area,
>and there is as yet no protective glass or cover of any kind. Quickie
>rough calculations tell me my efficiency seems to be way down.
>
>Any comments? What charge current do you guys get per square foot with
>PV cells? They have been unused for a long time - any reason to expect
>improvement in the future? Maybe I just got rejects - would rejects be
>as consistent as this? Do rejects deliver low current, or low voltage,
>or what?

Jerry, the current rating for solar panels is the *short circuit*
current. And the voltage rating is the *open circuit* rating, both
in full sun on a clear day with the panel oriented dead on perpendicular
to the sun's rays, and the panel held to a temperature of no more than
25C. You won't ever get all of that at the same time, so the charge current
into a battery will always be less than the panel's current rating.

The curve relating panel voltage and current is non-linear, and
there is one point where you get maximum panel *power* output,
but it's rarely the point where you hook the panel to a battery
through a isolation diode. For high efficiency charging, you
need a DC-DC converter that keeps the load on the panel at the
high efficiency point and steps up the voltage to charge the

battery at the required rate.

Your panels are obviously of an older design, and don't have the efficiency of some of the newer panels, but the way you are operating them may be hurting you more. The efficiency of solar panels declines with temperature, so you need to arrange to keep them as cool as possible for best output too. And of course they need to be placed dead on perpendicular to the sun's rays, a tracking mount is required for best efficiency. And a proper charge controller is needed to load the panels properly and deliver the most effective charging voltage to the batteries. If you don't watch out, however, those "improvements" can wind up costing you more power than you gain.

The attitude of many solar power advocates is that since the "fuel" is free, they don't care about efficiency. But as you've discovered, it's the cost of the physical plant that limits how economically you can obtain solar power.

Solar panels don't improve with age, in fact they degrade, so they won't get any better, but you may be able to improve how you are using them in order to get the most out of them. Your panels, properly oriented in bright sun, should be intercepting about 300 watts of solar energy. If they are older panels, the efficiency will be less than 10%, so you shouldn't expect more than about 30 watts out of them if you load them properly, less if you don't. The *best* panels get up to 30% efficiency, so that would give you around 90 watts, but you don't even want to know what panels like that cost.

Gary
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2464. Re: Press-n-Peel and Scratched Copper

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr15.163535.5964@ke4zv.atl.ga.us>
Source record: 105994

In article <199604151306.GAA12557@zook.lafn.org> af389@lafn.ORG (David Shalita) writes:
>
>Just before heating the Press-n-Peel film , I preheat the bare clean
>unetched copper board by laying the hot iron bottom directly onto thecopper
>surface. Immediately, scratches appear. The clothes iron surface seems to
>scratch the new copper. These are fine scratches and not deep. But, after
>placing the Press-N-Peels film on the hot board, and ironing, the deep
>circular scores and scratches appear on the unetched copper and can be seen
>in the toner patterns.
>
>Is anyone else seeing these deep scratches?
>How do I avoid these scratches?

Didn't your mother teach you how to iron "delicate" things?

Don't ever ever touch the hot iron directly to the copper or to
the transfer sheet. *Always* use a cover cloth. Old cotton Tee
shirt material works fine, or well worn flannel shirt material
will work too. Use *lots* of pressure, but don't get too vigorous
with iron motion. Just move it enough to get even heat transfer
across the pattern. It you scorch the cotton, you left the iron
down too long.

I usually preheat my boards under a heat lamp. Remember the
board has to be perfectly clean and oxide free. Don't overheat
it or leave it heating too long or fresh oxide will form and
mess up your transfer. The copper always has tiny scratches
in it, it is the overheating that is highlighting them due to
oxide formation.

Gary
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2465. Re: WHERE CAN I GET PLANS FOR QUAD ON INTERNET

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: rwa@cs.athabascau.ca
Message-ID: <4ktu2n$12ne@rover.ucs.ualberta.ca>
Source record: 105995

AC6V <ac6v@ix.netcom.com> writes:
>billp8@atl.mindspring.com (Bill Poston) wrote:

>>Please, can any tell me where I can get plans for homebrewing a quad
>>antenna.

>Take a look at Bill Orr's (W6SAI) Book -- "All About Cubical Quads".
>Should be available at your local Ham Store.

>Highly recommended.

I agree, though I'll mention in passing that Bill's designs tend
toward rather wide-spaced (ie, long boom) variants of the quad.
There's nothing intrinsically wrong with that, and they will work
well, but mechanically they're a bit of a bother. Most recent designs
that I've seen are much more close spaced.

regards,
Ross vep6pdq

--
Ross Alexander, ve6pdq -- (403) 675 6311 -- rwa@cs.athabascau.ca

2466. Cable TV tuner for UHF receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: forrerj@ucs.orst.edu
Message-ID: <4ktsmv$402@news.orst.edu>
Source record: 105996

Hi,

I have a couple of Mitsumi Cable TV tuners and was wondering whether they were worth using as the basis for a UHF receiver.

These have several bands that is selectable by applying 5V logic to a selected pin - the range that I'm interested in, tunes from 190 - 450 MHz - the VCO tuning for this range corresponds to 0 - 20V. Output IF frequency is 45 MHz.

In general, if I'm interested only in the 70 CM ham band, would these units be worth considering as as starting point?

Comments or suggestions would be appreciated.

Thanks,

--Johan Forrer, KC7WW

2467. ***** Please help FT-10 Mods needed..*****

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: Raymond <raymond@gm0otb.demon.co.uk>
Message-ID: <621726769wnr@gm0otb.demon.co.uk>
Source record: 105997
Cross-posted to: rec.radio.amateur.equipment,alt.radio.amateur.club.clarc,aus.radio.amateur.misc,aus.radio.amateur.wicen,francom.radio_radio,in.ham.radio,rec.radio.amateur.homebrew,rec.radio.amateur.misc,slac.rec.ham_radio,tnn.radio.amateur

Can anyone help,
I have a Yaesu FT10R (b1) and wonder if anyone has any
mods for the radio?.

If you all ready have a FT10 with extended RX could you please

1. Remove the battery pack.
2. Remove the "Ni-cad" sticker (The sticker will peel off with any
damage to itself.)
3. Remove the two screws which secure the keypad.
4. The keypad will now be released from the radio.
5. You will now be able to see the green PCB and Solder pads (H,I,J)
and SMT Chips/Mounts (k,L,M,U,V).
6. Grab a pen and paper and take a note of the position of all the
pads ETC.

Eg. l,M,V are Chiped and Pads H,I are soldered.

7. Reassemble the radio.
8. Please E-mail me DIRECT with your findings..
9. Give yourself a big pat on the back..!! and have a cup of coffee.

Please Remember to E-Mail me DIRECT...

Thanks Ray..

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2468. WEFAX/RTTY interface....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: eggsmstr@pop3.cris.com
Message-ID: <4ku1s4$1js@tribune.concentric.net>
Source record: 105998

Good afternoon all,

I am currently looking to purchase (not construct) an interface for running HAMCOM or JVFAX
If anyone has one lying around the SHACK and would wish to part with it, please let
me know.....

73'S

JEFF

2469. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_829590783@rtfm.mit.edu>
Source record: 105999
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb, rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet mailing list counterparts and complements. It is intended to serve as a guide for the new reader on what to find where. Questions and comments may be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October 1994 to add the discussion of non-Usenet mailing lists and streamline most of the history discussion, and to change the moderator information for rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions were held on the mailing list, and sent to the mailboxes of those who had signed up for it. When the Usenet software was created, and net news as we now know it was developed, a newsgroup was created for hams: net.ham-radio. The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became progressively higher. First one by one, and then as part of two reorganizations, what was once one group became many. In the process, developments elsewhere on the net were reflected in the groups as they were created, most notably the change to place all of the ham radio groups in one hierarchy.

The collection of newsgroups continues to grow as more people join the net, and as more topics of discussion gain volume, I expect to see more groups be created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the notable exception being rec.radio.swap. There are also a few mailing lists that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them, and not to the groups that aren't. The whole idea of having different

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

2470. Re: Questions about SAW devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: Kelly McArthur <Kelly_Mcarthur@ccm.jf.intel.com>
Message-ID: <4ku48n$mrp@news.jf.intel.com>
Source record: 106000

Rik Slingerland <rik@iaehv.nl> wrote:
>Kelly McArthur <Kelly_Mcarthur@ccm.jf.intel.com> wrote:
>>
>> I just read an article that described the use of SAW (Surface Acoustic Wave)
>> devices in simple, low-cost RF transmitters. Apparently, they are available both
>> as filters and resonators, for frequencies in the hundreds of MHz.
>>
>Please be more specific: the cheapest SAW filters cost close to nothing and are >used in TV set. However, they are for HAMS close to not valuable as well.
>They are not tunable, because they work as follows (don't catch me on
>details, I'm not a pro):
>

Yes, I'm aware of the delay lines used in TV's for luminance comb filters, but the SAW devices I'm looking for are something else. Apparently, they are used in things like garage door openers operating at around 300MHz, and replace the tuned L/C circuit in a simple colpits oscillator. Better freq stability than discrete oscillators, and easier to use than crystals with freq doublers, triplers, etc. The whole TTL to RF low-power transmitter circuit consists of about about 10 components. There is some information on the Siemens www page, but I'm trying to find out who the other vendors are, what frequencies are available, and if the operating frequency can be "pulled", or frequency modulated with a varactor.

Kelly_McArthur@ccm.jf.intel.com

2471. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <4ku7qq$rlv@vista.hevanet.com>
Source record: 106001

I've had pretty good luck designing front panels using AutoCad and plotting directly on the aluminum panel.
miker

2472. Re: Controlled Carrier AM (was Re: Transmitting tubes!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: fehner@cts.com
Message-ID: <3172a23d.1654408@news2.cts.com>
Source record: 106002

This system was developed in 1950 by Bob Carter and was called Carter
modulation. He developed it for mobile use in the days of 6V. car
batteries and dynamotors inorder to reduce power consumption. A switch
controlled the screen grid clamping voltage allowing either controlled
carrier or normal screen grid modulation. I used the system with an
ARC5 transmitter in the early 50's and it worked great with just a
little non-linearity in the modulation.

Barbara KK6IB
E-Mail: fehner@cts.com

---
dgf@netcom.com (David Feldman) wrote:

>In article <Dp76qF.G77@twisto.eng.hou.compaq.com> Monty Wilson
<mwilson@bangate.compaq.com> writes:
>>nangwa@aol.com (Nan Gwa) wrote:
>>>My venerable old 1973 ARRL Handbook, in a section entitled "A Sweep
>
>>My dad's Drake TR-3 transceiver uses three sweep tubes in parallel,
>>and it does use them on AM, but they pulled a trick to keep the
>>duty cycle down. They suppressed the carrier and screen-grid-
>>modulated the tubes so your wattmeter looks like you're talking on
>>sideband, but when the sidebands are present the carrier is also,
>>making it possible to copy you on an AM receiver. Of course, a
>>REAL AMer would tell you you don't sound too good...
>
>Drake calls this "controlled carrier AM". I think what's really happening
>is that the carrier level into the finals tracks the modulation envelope,
>so when the signal is only lightly modulated (i.e., less power into the
>sidebands), the carrier level is reduced accordingly, so that the carrier-
>to-peak-modulation-power level is held more in line. It definately gives
>you lower average plate dissipation (unless you're also using audio
>compression) and it is still audiable on a regular AM receiver (altho the
>RF-derived "S" meter on an old style AM receiver will now move at a syllabic
>rate, rather than hold steady). It's kind of an interesting scheme and the
>only drawback I can see is that the receiving end might perceive a lower
>signal/noise ratio during periods of low modulation.
>
>No other HF transceiver (even modern solid state ones) seem to work this way.
>
>73 Dave WB0GAZ dgf@netcom.com
>

2473. radio homing devices..help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: skacore@wpi.edu
Message-ID: <4kuff9$h4f@bigboote.WPI.EDU>
Source record: 106003

I'm planning the design of homing device, or "bug" to track the movement of a transmitter across about a square mile area. I'm planning on using some kind of triangulation system, and once the relative signal strength is known from each tracking antenna, these radial distance values need to be fed into a computer through an a/d converter. The transmitter also has to have some kind of long-lasting, or regenerating power supply. The problem is, I don't know where to start, and I've only had a little experience in electronic theory (enough to understand what's going on and to build the device).

What I'm looking for are webpages, books, and personal advice on the design of this device. Any help would be GREATLY appreciated.

Sean Dunn
Worcester Polytechnic Institute

--
==========
Sean Dunn	(This space
skacore@wpi.edu	intentionally
http://cs.wpi.edu/~skacore	left blank)
==========

2474. Re: Ten-Tec 1209 transverter kit: comments?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: mdowning@wahoo.rdatasys.com
Message-ID: <4kui28$5cl@lionfish.rdatasys.com>
Source record: 106004
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Rick (erica.s@worldnet.att.net) wrote:

: What other new kits have they announced? I hadn't heard about the
: 2m to 6m kit?

I called today, and found out that my 20m->6m kit shipped last week.

73 de AC6PN
--Mark

--
Mark A. Downing Relational Data Systems
Phone:(714)263-3899 30 Executive Park, Suite 260
Internet: mdowning@rdatasys.com Irvine, CA 92714

2475. Re: Solar Cells Efficiency?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4kul5q$sbl@solaris.cc.vt.edu>
Source record: 106005

In article <1996Apr15.161122.5825@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) says:
>
>In article <4krn8k$hps@news1.sunbelt.net> flanders@znet.groupz.net (Jerry Flanders) writes:
>>Last September, I bought three unused 12" x 24" PV panels at a hamfest
>>in NC. They were unmounted, just the glass panel with the bare metal
>>coating on the back. I was told they were rated at about 900 mA at
>>about 18 volts each.
>>
>>I have finally gotten around to actually connecting electrodes and
>>testing them out. The first one only put out about 250 - 275 mA in
>>bright SC sunlight yesterday (charge current into a 12 v lead-acid
>>battery, with an isolating diode in the circuit (same without the
>>diode - I checked).
>>

Most likely you have amorphous panels. They can be identified by their uniform brown color. These perform very poorly in less than absoulte full sun, which doesn't happen often. I've always been disappointed by them, except maybe in a solar calculator or other application that requires only a miniscule fraction of the rated output. Trade them for crystalline (appear blue) panels instead. The cost is about twice as much per claimed watt, but you can expect to get close to the rating, if exposed to a reasonable level of sun, and even some useful power in cloudy conditions. Also the crystalline panels develop more than twice the watts per area. I wouldn't install amorphous panels even if they were given to me (well, maybe if I were in a low-latitude desert and could count on full 1 KW / m^2 sun all day), so if that is what you have you may have some trouble liquidating them.

>Jerry, the current rating for solar panels is the *short circuit*
>current. And the voltage rating is the *open circuit* rating, both
>in full sun on a clear day with the panel oriented dead on perpendicular
>to the sun's rays, and the panel held to a temperature of no more than
>25C. You won't ever get all of that at the same time, so the charge current
>into a battery will always be less than the panel's current rating.

Solar panels act pretty much as constant-current sources from shorted up to near the rated voltage. The current decreases by maybe 5% over most of the range. Slightly before the rated voltage is reached, the current output starts to decrease sharply. The rated voltage and current are the optimum operating point to draw as much *power* from the panel under full-sun conditions. This point is slightly down on the "knee" of the current vs. voltage curve. If you just heard

the rating by word-of mouth it may not conform to this convention of course, but usually the rating is xxx mA @ xx V with the understanding that this is the peak power point under nominal "full sun".

A full-blown "charge controller" automatically finds the optimum peak power point, which is neither the maximum voltage or the maximum current. For a small installation, it is more economic to just obtain a panel with a rating of 15 to 18 volts (for 6-cell lead acid battery), go on the current rating (thus slightly oversizing the wattage rating) and dump the panel output current straight into the battery. If you are considering more than 50 W or so of capacity, then charge controllers, tracking mounts, etc. should be considered in their cost trade-off against buying more or larger panels.

With a direct (through diode) connection to the batteries, no regulator at all is required unless the battery can't tolerate overcharging, in which case a shunt regulator is probably best since it doesn't reduce performance at less than full charge. Yuasa sealed lead acid batteries are designed to overcharge for moderate times (a few hundred hours) at up to 10% of capacity but other brands or wet cells may not fare as well.

-Mike KD4QDM

2476. New Microwave Homepage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: dave1@clubnet.net
Message-ID: <dave1-1504961523060001@ns.clubnet.net>
Source record: 106006

The San Bernardino Microwave Society now has a home page for interested hams. The URL is: "http://www.ham-radio.com/sbms/sbms.html".

There is also a new Microwave mail list (reflector). To join just send an e-mail to sbms-request@ham-radio.com and provide your name, call and e-mail address.

Thanks and 73,

Dave - WA6CGR

2477. Question: Having Circuit boards made: Where?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4kurgc$f7a@newsbf02.news.aol.com>
Source record: 106007

```
Does anyone have a favorite circuit board house or fabricator that they
like to use to produce small qty boards for prototypes? Can anyone
recommend a cheap but functional software package to do the CAD work?
/=====================================================/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/=====================================================/
```

2478. Re: Solar Cells Efficiency?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4kurgh$f7d@newsbf02.news.aol.com>
Source record: 106008

From what I've read, the single most important factor in maximizing the output of your solar supply, whatever its fabrication technology, is *tracking*. If I remember the figure correctly, a panel that is set up to track the sun over the course of the day is supposed to produce 40% more electricity than an equivalent south-facing fixed panel.

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

2479. Re: Help: need altimeter device for ham balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: "Charles R. Patton" <patton_c@a1.wdc.com>
Message-ID: <3172B00C.2FD7@a1.wdc.com>
Source record: 106009

> In article <4k8t7p$580@news.mountain.net> acc@pobox.com (Brian) writes:
....
> >way to
> >determine the altitude of the balloon (low cost needed) I have heard
> >of a few chips or rather modules by motorola that do this....
> >Thanks Brian McClure (N8PQI)
> >email: acc@pobox.com
> >phone: 304-746-0448

One company that has been selling radiosonde boards (item #G5064) for
$1.95 with an SDC atmospheric pressure sensor on it is:
The Electronic Goldmine
fon 602-451-7454
fax 602-451-9495
P.O.Box 5408
Scottsdale, AZ 85261

2480. Re: CTCSS decode with DSP??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ku5ai$m72@hpcvsnz.cv.hp.com>
Source record: 106010

Matt Roberts (mattro@radware.net) wrote:

: I'm working on an amateur project with DSP, in which a part will be to decode a PL tone from
: receiver audio. At this point I am inclined to use a phase-locked loop emulated by software.
: Has anyone worked with this type of project before, perhaps something similar used for
: DTMF? I'd like to hear from you!

Analog Devices publish a set of books on DSP applications. My set is at home at the moment, but I think it's in "Digital Signal Processing Applications Using the ADSP-2100 Family" that they give example programs and a discussion of tone decoders. They implement a multi-channel DTMF decoder, just to illustrate that there's _plenty_ of processing time to do this sort of task. The filter they describe is more closely related to an FFT than to a PLL. I believe it uses the Goertzel algorithm, which you can find in other books on sampled-time processing.

--
Cheers,
Tom
tomb@lsid.hp.com

2481. Re: Conversion of noise voltage into noise figure ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: peake@dstos3.dsto.gov.au
Message-ID: <peake.167.0074DE3F@dstos3.dsto.gov.au>
Source record: 106077

>its output as appears at its input. If the noise limited SNR at the input is
>-20 dB, it's still -20 dB at the output. Can you use an SNR of -20dB? If so,

True enough, and if the SNR at the input is -100 dB then it's -100 dB at the output so the sensitivity of the ideal amp is dependant only on the input SNR and given an ideal source with no noise, then the sensitivity should be infinite. OK, there is no such animal as a perfect source so the whole thing's a bit academic anyway.

Alan

2482. New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-15 00:00:00 UTC
From: turnerde@ccnet.com
Message-ID: <4ksoea$4re@ccnet2.ccnet.com>
Source record: 106078

I'm considering the construction of a new linear amp using
the Svetlana 4CX1600B. This is the Russian version of the
original American tube. This tube is very attractive because
of the low drive requirements, grid driven with a passive
input circuit. The question is, does anyone have experience
with the Svetlana transmitting tubes, and more specifically
with this one. I'm using their 6550C's in an audio amp,
and they are great. Leave email if you have information.
Thanks WA6WRX

2483. Re: Questions about SAW devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: blair@stimpy.dseg.ti.com
Message-ID: <4kv17g$65p@mksrv1.dseg.ti.com>
Source record: 106011

Kelly McArthur (Kelly_Mcarthur@ccm.jf.intel.com) wrote:
: I just read an article that briefly described the use of SAW (Surface Acoustic Wave)
: devices in simple, low-cost RF transmitters. Apparently, they are available both
: as filters and resonators, for frequencies in the hundreds of MHz.

: I'm interested in short-range RF data transmission via simple, inexpensive links,
: and these seem like they might be a good alternative to the LC circuit's stability
: problems, or the complexity of crystals with frequency triplers, etc. I was
: also wondering if the SAW resonators are pullable, for FM or FSK transmission
: schemes?

: If anyone can help with info on Manufacturers and Data Sheets, Distributors and
: Application Information, I would be very interested. Thanks!

Manufacturers include Sawtek & Phonon. I'm not familiar with the term "pullable"
but if it involves changing the characteristics of the filter by electrical
control, the answer is no. Advantages include size and STEEP skirts.
Disadvantages include lots of loss and so-called "triple transient" distortion
(signal bounces around in the device yielding more pulses out than you put
in, for instance.)
Art.

2484. schematics for VHF amp using 2c39 / 4cx2

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <3173B930@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 106012

hello peter,

german or english, what do you like more? See my comments below... lets keep it in this way of posting.

at least, what is your callsign? are you already qrv on 2m or 70cm? We could arrange a sked as during contests its always possible to work PA stations using 10W and standard yagi from my station.

| > is DL4MEA
| is Peter from Netherlands

|
| > Do not overstress price and construction needs of transistor and tubes. The
| > things depend on the power level you start with and you want to reach.
| >
| > for 1-25w input i would say a power module as they are produced by
| > mitsubishi and others is the easiest way to reach 100w (and if you couple
| > two of them even 200w). also the price is not too much.
|
| True, this may be the easiest way, but I have a sort of 'love' for
| red-glowing tubes ;-) For you the price may not be too high, but I like
| to build it myself instead of buying of-the-shelf. For me, most fun is
| the building, not the transmitting :-(

Ok, I agree and accept that reason. Otherwise it would not be worth the work. But for the VHF tubes you will not see red glowing, despite the old fashioned QQE06/40, but if you really intend to use this tube it would be better to use a dummy load hi...

| >
| > this is because you did not consider the power supply needed...
| Indeed, one big problem. I had a magnetron trafo (about 2000V secondary),
| but this one is no more. Apparently some shorting, it drew 2.7A, without
| any loading attached.... So that's why they gave it to me.

Transformers are sometimes available on fleamarkets or (commercial) surplus sales. Sometimes really cheap (around DM 50-100) as most of the companies do not know what to do with them.

| >
| > First, for the 2c39 you will need a 1000V-1200V supply. biasing is easy as
| > it can be done by a simple zener diode, or better with an adjustable

one.
| > maximum output power with a single tube is about 100W-150W.
| >
| >
| > Second, for the 4cx250 it gets more complicated. first you will need
| > 2000V-2500V anode supply, stabilized 350V for the screen grid and -100V
| > (switchable to adjustable -55V) for the control grid. So this is a
| > complicated triple power supply.
|
| That's the main reason I want to use the 2c39 first and not the 4cx250,
| even though it can deliver more power. I've had some remarks of the sort
| 'they use 2c39's for 23cm, why use them on 2m?', but the main reason is
| the simplicity (relatively speaking) of a grounded-grid 2c39.

Lets think about the usage of 230V:230V transformers. take four of them with secondary in series and you will get 1300V after the capacitors. This will drop during transmission and give a suitable anode voltage. They could be cheap as you need only a quarter of the power. I would say take 100VA transformers and you will have enough power to feed a double or triple tube amp. Spent some more power to the power supply than needed, as this would give you the possibility of reusage. (I have an supply working with 3phase power providing 4kVA continous power which is used with just about 2kVA at the moment, but will fit with any others later). Another possibility is to take two transformers and build a doubler reticifier (spannungsverdoppler-gleichrichter), whatever will come cheaper.

Also, there are some german suppliers which already have ready wound transformers, and they are not too expensive (about DEM 100,- to DEM 300,-).

| >
| > Third, you must think about the cabinet and mechanics. Transistors are
| > mostly easy as they can be assembled to a PCB and are ready to go after
| > that. Tubes always need metal cabinets which are not easy to make
without
| > tools.
| Already got all of those, tools no problem either. I've already made a
| mounting for the 2c39 (fortunately, my father has a lathe, so that makes
| things much more simple ;-)) Bought a nice cabinet too, from an old
| IBM-power supply: nice, strong & big.
|
| > I am very shure about what I tell you. I use a homemade 2*4CX250 on
70cm, a
| > 2*2*2C39 on 23cm and currently I build a GS35B amplifier for 2m.
|
| Still, my question remains: how do I calculate/find the coil-values for
| the 2m-version using a 2c39? That is, can you use wire-wound coils with
| valves, or should I turn to Lecher-lines, coaxial-circuits, etc? These
| last seem fine for 70cm, but coils would certainly be easier (at least
| for me). I guess the in/out capacities of the 2c39 won't be a problem for
| using coils, or are they?

Hm, yes and no to these statements. For a 144MHz amp to reach suitable power you need a cavety design, at least I know one design made by DJ9HO which uses a standard coil made from about 5 windings dia 60mm and 60mm long. If you are interested I could check for it. But I strongly do not recommend it!!! Even if I have about 15cm of paperworks of tube power amps I don't own this because i did not find it interesting because of the small power.

Stripline designs are mostly better and also easy to build. But although you have a cabinet I do not think that you can use it directly, since the dimensions of the cabinet depend on the stripline (most of the striplines have an impedance of 50-80ohms, so stripline width and cavety dimensions depend on each other. the values cannot vary much because of the tube dimensions (distance between ground and stripline is close to the distance between grid and anode ring of the tube...)

Tube mountings, so called sockets, are sometimes used as they can be bought from the suppliers, but most of the time they are inclued into the cavety design using finger stock material (costs about DEM 50,- per meter). Milled mountings were also seen, but need low mechanical variations.

On 2m most of the time shortened quarter wavelength striplines are used. there are some designs that use flat striplines, some use copper tubes. copper tubes may be a little better, but are only useable for tubes like the 4cx250 where it is possible to blow the cooling air through the tube and then through the copper tube. this is not possible for the 2c39 where you have to blow against the tube.

So, at the end, if you are still intersted, I could check for the design from DJ9HO, but I would not recommend it. Stripline designs are rare but maybe available from DJ9HO, too. There is a fleamarket in Nuernberg at April, 28th, where I could check for the books and buy one for you if it is really interesting.

Hey, at least, another idea: Since some times a lot of interesting russian tubes are on the market, also cheap, but they deliver about twice to four times the power of the 2c39. DJ9HO is a good source for instructions how to use them, and if ever possible there will be a chance to find these descriptions in the books mentioned above.

cul!

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
dl4mea@amsat.org (Internet)
http://www.scn.de/~koellner (WWW)

2485. MOD's Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: decibel7@aol.com
Message-ID: <4kvlar$p1j@newsbf02.news.aol.com>
Source record: 106013

Greetings,

I need MOD's for a SBE Tahoe 40 40-channel CB transciever, anything and everything is needed,

Good speed to your modem
Decibel7

2486. Re: New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: kn5s@aol.com
Message-ID: <4l03n7$sui@newsbf02.news.aol.com>
Source record: 106014

Re: New Svetlana Trasmitting tubes

Any of the 4CX1000A designs should work well with the Svetlana 4CX1600B..
There have been several designs in the ham magazines.
I use one 4CX1000A in a 1.8 to 54 mc amp and one on 144 mc. These
tetrodes are all similar, and the circuit need not vary with the tube
mfgr.

73, Mark KN5S

73, Mark KN5S [Mark Mandelkern, Las Cruces, NM]

2487. RFI: Eico 710 Dipper Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: galen@lamar.ColoState.EDU
Message-ID: <4l05n3$3qg4@lamar.ColoState.EDU>
Source record: 106015
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hello, I have obtained an Eico model 710 Grid Dip Meter, covering
0.4 to 250 MHz, but no coils. Internal inspection reveals three
terminals for the coils, and a small test with a coil of wire didn't
come out too nice.
Anybody have any information on how the various coils are wound or
where to get a copy of a manual?
Trying to dip,
galen, KF0YJ

2488. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: ecgallup@mlode.com
Message-ID: <4l0eej$c00@news.wco.com>
Source record: 106016

>>In article <Pine.SUN.3.91.960408130307.10621A-100000@oak.liii.com>
Christopher Comeaux <impulse@oak.liii.com> writes:
>>> I am wondering about the feasibility of the following scenario: A
>>>person gets his boat wrecked on an uninhabited island nearby Hawaii.
>>>He has no electricity, but lots of wire from his smashed up boat.
>>>He uses it to make a directional antenna that is pointed toward
>
>stuff deleted...
>
How about this: make your big dipole; wind a nice high ratio transformer
using wood, or whatever (predicated that you have insulated wire, but could
be done without); hopefully find some dissimiliar metal on the boat, using
saltwater, make battery cells with the copper wire and dissimiliar metals from
the boat, run the dc into the stepup transformer, keying the input to create
a spark gap at dipole feedpoint, and send S O S. Even codeless techs can
send S O S. Unfortunately, there are less and less people who can read it!

Ed

2489. Re: Solar Cells Efficiency?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: Rich Alloway <ralloway@pennet.com>
Message-ID: <Pine.LNX.3.91.960416115141.9394C-100000@mailer.pennet.com>
Source record: 106017

I know I haven't read the whole thread (and that is my fault) but I have read a couple postings and noone has mentioned the actual efficiency of a solar cell.
Just a few months ago, a relatively local company (somewhere in Viginia I believe) was visited by a electrical engineer friend of mine. He has been helping them increase the efficiency of their solar cells. After he "meddled" with their operations a little bit they were amazed at getting 15% efficiency!!! (Yes...fifteen percent!)

Hope this helps a little,
Rich

2490. RF modules for telemetry application

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: jbarry@intercim.com
Message-ID: <4l0h5d$bq9@stratus.skypoint.net>
Source record: 106018

I am looking for sources for small inexpensive RF modules, seperate tx and rx would be OK, for a telemetry application. Would prefer 470 or 800-900mhz. With the all the consumer rf devices on the market now, 900 mhz telephones and stereo headphones, there must be several suorces for "building block" modules.

Any help on locating information and sources will be appreciated!

Jim WA0AXB

jbarry@intercim.com

2491. ?RF PROBE RECOMMENDATIONS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: tmaldred@mail.comox.island.net
Message-ID: <3173c3a9.261607939@news.comox.island.net>
Source record: 106019

Greetings All:

I am contemplating the purchase of an RF probe for my DMM.
Wavetek manufacture a model RF241 probe with interesting specifications
as follows:

>We have a high frequency probe model number RF241. Specs on this probe are:
>
>Frequency Range: 100kHz - 650MHz
>Accuracy Range: Plus/Minus 1 dB 100KHz-250MHz
> Plus/Minus 3 dB 250MHz-650MHz
>Maximum Input: 50 Volts RMS
>Input Capacitance: 5pF
>Operating Temp: -25 degrees C to +40 degrees C for 100kHz-250MHz
> 0 degrees C to +50 degrees C for 250MHz-650MHz
>Voltage Ratio: 1VRMS=1VDC at the meter.
>
>Extends the range sensitivity of DMMs with 10 or 22 MOhm input impedances.
>No data is currently available on the probe's loading resistance or
>impedance.

I wonder if anyone on this conference that owns an RF241 would
like to provide us with some comments about its performance and design?
I wonder what the circuit loading impedance is and also what limitations
there may be for the minimum voltage that can be measured with
reasonable accuracy? Is there a detector diode non-linear bias knee that
limits the accuracy of the probe for lower voltage levels?

I understand that both Fluke and B&K make similar probes. It
would be interesting to hear comments about alternate choices as well.

My intended application is for generating calibration data for a
digital readout HF peak and average reading power meter. I would use the
probe to measure the voltage across my 50 Ohm dummy load for setting the
various power levels needed for the A-D calibration points. For higher
power levels a resistive voltage divider would be utilized to ensure the
50 Volt maximum specification for the probe would not be exceeded.
Very Best 73: Thomas M. Alldread, VE7TMA
E-mail: tmaldred@mail.comox.island.net
packet radio: VE7TMA@VE7KGW.#NVI.BC.CAN.NA

2492. Re: Controlled Carrier AM (was Re: Transmitting tubes!)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4l0sui$kn1@crash.microserve.net>
Source record: 106020

fehner@cts.com (Barbara Fehner) wrote:

>This system was developed in 1950 by Bob Carter and was called Carter
>modulation. He developed it for mobile use in the days of 6V. car
>batteries and dynamotors inorder to reduce power consumption. A
>switch controlled the screen grid clamping voltage allowing either
>controlled carrier or normal screen grid modulation. I used the
>system with an ARC5 transmitter in the early 50's and it worked great
>with just a little non-linearity in the modulation.

There were some solid state (homebrew) designs in the 60's or early
70's that did the same thing. The amount of carrier varied with
modulation and would fall to zero with no audio input.

73,
Jack WB3U

2493. Re: RFI: Eico 710 Dipper Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr16.190229.11072@ke4zv.atl.ga.us>
Source record: 106021
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4l05n3$3qg4@lamar.ColoState.EDU> galen@lamar.ColoState.EDU (Watts) writes:
>Hello, I have obtained an Eico model 710 Grid Dip Meter, covering
>0.4 to 250 MHz, but no coils. Internal inspection reveals three
>terminals for the coils, and a small test with a coil of wire didn't
>come out too nice.
>Anybody have any information on how the various coils are wound or
>where to get a copy of a manual?
>Trying to dip,
>galen, KF0YJ

Straining the brain, I seem to recall that dipper uses the Hartley
circuit. So the third wire connection is to a tap near one end of
the coil for feedback excitation. Memory could be faulty, but I
also recall that the highest frequency "coil" is just a loop of
heavy wire formed from a piece of wire about 6 inches long and
plugged into only the two outside pins of the socket. Feedback
in that case must be by circuit strays. I had one of these many
years ago, but sold it and bought a solid state version, a Heath,
a long time ago.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2494. Re: Newbie needs help with a local set

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: sorgatz@avatar.tti.com
Message-ID: <Dpz2w1.528@ttinews.tti.com>
Source record: 106022

In article <9604052051.aa08565@bbs.doruk.com.tr> michaelm@doruk.COM.TR (Michael C. McHugh, TA2ZG/W2AV) writes:
>On Thu, 04 Apr 96 jackl@pinetree.microserve.com (WB3U) wrote:
>
>> Jaded <72260.3026@CompuServe.COM> wrote:
>>
>>>I want to set up a local station with a 1000 meter radius. I
>>>know I'll need a liscience, 'cause I don't feel like having the
>>>FCC coming in the magic vans. I have a few friends who will help
>>>with the cost, but I want to keep it under $100.
>>
>>Have you called Harris?
>
>C'mon, Jack, he said $100, not $100,000. Might find a good, used
>"liscience" at that price, though...
>
>Seriously, try the next hamfest flea market in your area. Flash that
>$100 bill and then stand back. One of 'em is sure to take the bait.
>Git you a "liscience" and a whole box of goodies to play with, I'll bet.
>
>Sorry. Just couldn't resist <g>.
>
>de Mike (TA2ZG/W2AV) Remote Sysop TA2EM BBS - first PRBBS in Turkiye
>Amateur Packet Radio: TA2ZG@TA2EM.#IST.TUR.EU
>Internet (email only): Michael C. McHugh <MichaelM@doruk.com.tr>

And you people keep wondering why we laughed at aol! Here's another one
that managed to somehow gain access to Mom & Dad's computer...

<sure sonny...you want FRIES with that 'liscience'??>

;)

sorgatz@avatar.tti.com (or:es@soldev.tti.com) KB6LUY (private email:eks@westworld.com)
TTI 3100 Ocean Park Blvd. Santa Monica, CA 90405
"ANY COMMENTS OR STATEMENTS MADE ARE NOT NECESSARILY THOSE OF CITICORP, ITS SUBSIDIARIES OR AFFILIATES." (Copyright 1995, ARR-permission to store/archive hereby granted)

2495. Do I need new Glasses?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9603168296.AA829695757@mails.imed.com>
Source record: 106023

Tom wrote:

From: w8jitom@aol.com (W8JI Tom)
Subject: New Svetlana Trasmitting tubes

<snip>
The recent QST piece about the 811A that shamelessly plugged the
"4CX1600"
should have been a paid advertisement, not a QST article.
<snip>

Tom:
Maybe I need new glasses but I saw about 15 3-???, 3CX????,
88??, and others made by Eimac mentioned as well as the 811 and 812
made by RCA and others. There is a reproduction of a full page RCA ad
from years ago in the article. There were also mentions of Collins,
Heath, Hallicrafters, Henry, and Drake. Oddly enough I see Svetalana
mentioned *once* generically and Russia mentioned *once* generically.

There was not ONE SINGLE mention of a specific tetrode ANYWHERE in the
article.

Maybe you read a different article?

The only direct reference to Svetlana as a tube manufacturer was the
first footnote that said you could get data sheets for most of the
tubes mentioned from Svetlana, *even if you happen to be using Eimac
tubes* (emphasis mine).

If anything the article was an Eimac ad!

All in all I thought it was a very well written *historical* piece.

I am not sure why the mood has changed but I see a lot of bashing of
QST and QEX here that disturbs me. Come on folks, the staff in
Newington are folks a whole lot like you and me. They are doing the
best they can to produce a quality product just like I am sure you do
for your employer (but then maybe not ;<). They sometimes make errors
in judgement or fall short of the mark. I'm sure glad you and I never
do ;<).

At the very least if we have a gripe let's get the facts straight!
Especially if we air the gripes in public.

Ray Mack
WD5IFS

mack@mails.imed.com
Friendswood (Houston), TX

2496. Re: Pulling a crystal up to 1000 ppm. Doable?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-16 00:00:00 UTC
From: Peter Shintani <shintani@tv.sony.co.jp>
Message-ID: <4l1a1b$8ej@oskgw.osk.sony.co.jp>
Source record: 106024

I know that you wrote 1000ppm, but if you can get away with it,
use a crystal at a subharmonic frequency. Some people double, triple or quadruple the
crystal frequency and thus the warping range is similarly increased. The ppm doesn't
change but the frequency range is increased. I don't remember much about
the matrix equations for describing the characteristics of a crystal but I seem
to remember that larger the physical crystal, the larger the warping range ?
So try to find some big crystals ?
P.

2497. Re: ?RF PROBE RECOMMENDATIONS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4l23jp$m7q@nadine.teleport.com>
Source record: 105929

In article <3173c3a9.261607939@news.comox.island.net>,
tmaldred@mail.comox.island.net (Thomas M. Alldread) wrote:

>>We have a high frequency probe model number RF241. Specs on this probe
are:
>>. . .
>>Accuracy Range: Plus/Minus 1 dB 100KHz-250MHz
>> Plus/Minus 3 dB 250MHz-650MHz
>>. . .

> My intended application is for generating calibration data for a
>digital readout HF peak and average reading power meter. I would use the
>probe to measure the voltage across my 50 Ohm dummy load for setting the
>various power levels needed for the A-D calibration points. For higher
>power levels a resistive voltage divider would be utilized to ensure the
>50 Volt maximum specification for the probe would not be exceeded.

+/- 12% (1 dB) or +41/-29% (3 dB) accuracy seems pretty poor for this
application. And that doesn't include loading effects and inaccuracy of the
meter.

Roy Lewallen, W7EL

2498. Re: Do I need new Glasses?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4l2f5g$qjb@newsbf02.news.aol.com>
Source record: 105930

Hi Ray,
Let me be more specific. In article
<9603168296.AA829695757@mails.imed.com>, mack@mails.imed.COM writes:

> Maybe I need new glasses but I saw about 15 3-???, 3CX????,
>88??, and others made by Eimac mentioned as well as the 811 and 812
>made by RCA and others. SNIP
>There was not ONE SINGLE mention of a specific tetrode ANYWHERE in the
>article.

The lead, AND LARGEST, picture was a Svetlana 811A. What's wrong with a competitor's tube being pictured, or better yet an *original* RCA 811A ?

Look again at the references. They steer the reader directly to the author's own business. Only reference 2 does not. The articles referenced were all written (with the help of the author) to endorse or support the author's products. The "technical articles" referenced don't describe general tetrode operation, they specifically describe the advantages and use of the ****author's tubes****.

>The only direct reference to Svetlana as a tube manufacturer was the
>first footnote that said you could get data sheets for most of the
>tubes mentioned from Svetlana, *even if you happen to be using Eimac
>tubes* (emphasis mine). If anything the article was an Eimac ad!

Eimac ad? Where is Eimac's phone number, a picture of Eimac's product? Where is Eimac's address or a reference to any construction articles using Eimac's tubes? Funny, in your "Eimac ad" *every single one of those topics* are covered for the author's company, and ONLY that company.

Let's talk about getting "facts straight". I JUST CALLED Svetlana and talked to Pat. She said they don't HAVE Eimac data sheets, since Eimac is a competitor. But she would gladly help me find the closest Svetlana tube to the Eimac tube I was interested in. Some Eimac ad!

Read the "Next Revolution" section carefully. It:
1.) Downplays the cost and complexity of tetrodes, falsely claiming they are more simple to build and operate and some sort of "revolution".

2.) It falsely claims "The zero-bias revolution was ***NOT*** driven by technical performance".

Well, it most certainly was! Zero bias grounded grid amplifiers are easier to operate, more stable, have better IMD performance without regulated supplies, use less components, and are more compatable with the power levels of modern exciters. That sure sounds like good technical performance to me!

3.) The article paints the "tetrode from Russia" as "simple, inexpensive, modern, and high performance". Those are the exact words used.

>All in all I thought it was a very well written *historical* piece.

So did I, except the last section. I see little reason to extoll the virtues of tetrodes manufactured by the author's company in a historical article about the 811A, or tubes in general. I see no reason for only listing references leading back to the author's wallet.

>At the very least if we have a gripe let's get the facts straight!
>Especially if we air the gripes in public.

I hope I have MY facts straight enough now.

73 Tom

2499. Re: New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4l2f7k$qk8@newsbf02.news.aol.com>
Source record: 105931

Hi Ray,
Let me be more specific. In article
<9603168296.AA829695757@mails.imed.com>, mack@mails.imed.COM writes:

> Maybe I need new glasses but I saw about 15 3-???, 3CX????,
>88??, and others made by Eimac mentioned as well as the 811 and 812
>made by RCA and others. SNIP
>There was not ONE SINGLE mention of a specific tetrode ANYWHERE in the
>article.

The lead, AND LARGEST, picture was a Svetlana 811A. What's wrong with a competitor's tube being pictured, or better yet an *original* RCA 811A ?

Look again at the references. They steer the reader directly to the author's own business. Only reference 2 does not. The articles referenced were all written (with the help of the author) to endorse or support the author's products. The "technical articles" referenced don't describe general tetrode operation, they specifically describe the advantages and use of the ****author's tubes****.

>The only direct reference to Svetlana as a tube manufacturer was the
>first footnote that said you could get data sheets for most of the
>tubes mentioned from Svetlana, *even if you happen to be using Eimac
>tubes* (emphasis mine). If anything the article was an Eimac ad!

Eimac ad? Where is Eimac's phone number, a picture of Eimac's product? Where is Eimac's address or a reference to any construction articles using Eimac's tubes? Funny, in your "Eimac ad" *every single one of those topics* are covered for the author's company, and ONLY that company.

Let's talk about getting "facts straight". I JUST CALLED Svetlana and talked to Pat. She said they don't HAVE Eimac data sheets, since Eimac is a competitor. But she would gladly help me find the closest Svetlana tube to the Eimac tube I was interested in. Some Eimac ad!

Read the "Next Revolution" section carefully. It:
1.) Downplays the cost and complexity of tetrodes, falsely claiming they are more simple to build and operate and some sort of "revolution".

2.) It falsely claims "The zero-bias revolution was ***NOT*** driven by technical performance".

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>At the very least if we have a gripe let's get the facts straight!
>Especially if we air the gripes in public.

I hope I have MY facts straight enough now.

73 Tom

2500. Need HP 8410,8411 Network analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4l2g0d$qua@newsbf02.news.aol.com>
Source record: 105932

I am looking for the B version or greater on the 8410. The unit will be for ham use. Any additional plug ins you have available will be considered.

Thanks beforehand

Viny

2501. RS-232 to TTL Rig Control ...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <4l2rs9$1jho@tetsuo.communique.net>
Source record: 105933

If you are thinking about using you PC to control
you ham rig check out my page and the FT-736R CAT
section. The unit shown is usable on all rigs that
require a RS-232 to TTL level converter to control
the rig. Kits include all connectors needed for
connection to Kenwood, Yaesu or Icom rigs and as
well as others.

Check it out ...

http://www.gcr1.com/n5gpi/

73,
N5GPI

2502. HAM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: russ.wuertz@spacecoast-bbs.com
Message-ID: <8BED207.009100122A.uuout@spacecoast-bbs.com>
Source record: 105934

Date: 10-12-95 (18:45) Number: 13348 of 13367 (Refer# NONE)
To: All
From: Russ Wuertz
Subj: ELF RECIEVING SYSTEM
Read: NO Status: PUBLIC MESSAGE (Echo)
Conf: Shortwave (35) Read Type: TEXT SCAN (+)

For the interested party in E.L.F.:

An ELF recieving system, like what Congress is using on C-Span (I guess?)
can be had from Panaxis Productions assembled for 79.00 . Its the L500

There is also an Ethereal Plane Monitor that can be had for 32.00 dollars
assembled. It is the EPM. It recieve that annoying VLF that are
"voices" that the police department seem to be broadcasting. (That also could
be repeating your thoughts) They refer to it in the catalog as "whistlers"
and the "dawn chorus". For me, they use the voice of a little girl that the
locals named, "the girl with the desperate voice."

For better Quality VLF sound listening and possible recording, you can get]
the L700 for 109.00 bucks.

They seem to be legal and are sold in Paradise, CA. (916) 534-0417

There is also a micro-harminizer that costs 119.00 bucks that broadcasts
hormonics of 7.83 Hz that will block your thoughts from being stolen.
1-800-456-9887.

If anyone else has any devices that are in this field, please let me know.
There are people being terrorized right now and are in hospitals because of it.

--- FLAME v1.1
* Origin: Techtalk BBS, Cocoa, FL 407-635-8833 (1:374/1)

<<<>>>

2503. Re: 1. Need Help With RFI Problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <4l2slf$1nv@mgate.arrl.org>
Source record: 105935
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.misc

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>The FCC prints a pamphlet on RFI causes and cures, but it isn't
>very technical, oriented more toward the consumer. A better book
>on RFI causes and cures is offered by the ARRL.

The FCC's book is useful in one important regard -- it will help your neighbor understand the difference between transmitter-caused interference and consumer-equipment caused interference. The ARRL also has an "RFI Pamphlet," available from the Technical Department Secretary for an SASE that says the same things (surprise!), but having it said in the FCC's own words often carries more weight with your neighbor. The book is called "Interference to Home Electronic Entertainment Equipment Handbook (CIB-2)." It is available for $2.50 from: (I ordered it by name with no difficulty.)

US Government Printing Office
Washington, DC 20402-9371
Phone: 202-783-3238
202-512-1800 (credit card orders only)
Web Site: http://www.gpo.gov

ARRL also has several interference packages that will offer some fast starter help. Most are available electronically from the ARRL area at oak.oakland.edu or from info@arrl.org. Paper copies are available from our Technical Department Secretary for $2.00 for ARRL Members, $4.00 for non members.

We have the "RFI Pacakge," RFI-Telephone, RFI-TV, RFI-Audio, RFI-Electrical and RFI-CATV. The CATV package is available ONLY in paper form; it is a reprint of an article I wrote for Communications Technology, the journal of the Society of Cable Television Engineers. (I chose that instead of QST because I wanted something hams could hand to their cable operator. They trust CT more than they trust QST, for some reason. :-)).

Our RFI book, Radio Frequency Interference is available from most ham dealers, our Pub Sales Department, using the handy-dandy order form in QST. If you are an ARRL Member, you can get a bit of technical advice before you buy the book by calling us at (860) 594-0214.

73 from ARRL HQ, Ed Hare, KA1CV, ARRL Laboratory Supervisor

2504. Re: New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: paul1@news.sfu.ca
Message-ID: <4l33qo$fck@morgoth.sfu.ca>
Source record: 105936

Mark Mandelkern <kn5s@lascruces.com> writes:

>Re: New Svetlana Trasmitting tubes

>Any of the 4CX1000A designs should work well with the Svetlana
>4CX1600B. There have been several designs in the ham magazines.
>I use one 4CX1000A in a 1.8 to 54 mc amp and one on 144 mc. These
>tetrodes are all similar, and the circuit need not vary with the
>tube mfgr.

>73, Mark KN5S NM

Hi Mark,

Would appreciate some more details on your amp. Could you email me
at the address below as my news server doesn't support email at present.

cheers, Paul
VE7CQK
email: paul1@wizard.ucs.sfu.ca

2505. Re: radio homing devices..help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr17.170302.15783@ke4zv.atl.ga.us>
Source record: 105937

In article <4kuff9$h4f@bigboote.WPI.EDU> skacore@wpi.edu (Sean Edward Dunn) writes:
>I'm planning the design of homing device, or "bug" to track the movement
>of a transmitter across about a square mile area. I'm planning on using
>some kind of triangulation system, and once the relative signal strength
>is known from each tracking antenna, these radial distance values need to
>be fed into a computer through an a/d converter. The transmitter also has
>to have some kind of long-lasting, or regenerating power supply. The
>problem is, I don't know where to start, and I've only had a little
>experience in electronic theory (enough to understand what's going on and
>to build the device).
>
>What I'm looking for are webpages, books, and personal advice on the
>design of this device. Any help would be GREATLY appreciated.

Do you want the bad news first, or the really bad news first? :-)

The relative signal strength won't be of much use in determining
the radial distance to the device over this distance span. And
unless the terrain is really flat, multipath is going to complicate
triangulation bearings enormously. If the transmitter you want to
track were really a *transponder*, this would be a relatively
simple job, but if it is just a transmitter, you've got your
work cut out for you.

It sounds like you want a tiny low power "fox", and that's no
problem, there are plenty of designs that will work, and a
solar cell or two can keep it running indefinitely with the
aid of a couple of Nicad cells (button type). I've seen them
built into the collar of a cat.

The DFing gear will be more complex. Probably your best bet
is to use a doppler direction finder at each DF site, and
telemeter the bearing information back to a central computer
site. You'll have to do some wizardry with the software to
eliminate bogus multipath information. You could use mechanically
scanned beam antennas instead of doppler units, but that's bulky,
finicky, and ugly.

Unless your target is in pretty constant motion, eliminating
the misleading multipath information is going to be a hard
job. An alternative is to have one or more of the direction
finding systems in motion, but I doubt you want to lay rails
around your search grid. (Of course if the search area is
variable, you can have your DF units in cars. That works
well.)

TAB books publishes a radio direction finding book for hams,
we call it "foxhunting" and treat it as a sport. The book has
enough information in it to get you started. It's available
from many amateur radio dealers, such as one of the Ham Radio
Outlet stores.

If we knew more about what you're trying to do, we might be able
to give you more specific advice. For example, there are ways
of taking advantage of VLF standing wave patterns to give very
precise location information, but that would require a different
set of design constraints than would a doppler VHF/UHF system.
If we knew how well concealed the transmitter had to be, how
small it had to be, whether the tracking area is fixed or variable,
how precise the location fixes have to be, do we have a predetermined
starting point, etc. we could do a better job of advising you.

Gary
--
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Lawrenceville, GA 30244 | |

2506. Re: Solar Cells Efficiency?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr17.175601.16086@ke4zv.atl.ga.us>
Source record: 105938

In article <Pine.LNX.3.91.960416115141.9394C-100000@mailer.pennet.com> Rich Alloway <ralloway@pennet.com> writes:
>
>I know I haven't read the whole thread (and that is my fault) but I have
>read a couple postings and noone has mentioned the actual efficiency of
>a solar cell.
>Just a few months ago, a relatively local company (somewhere in Viginia I
>believe) was visited by a electrical engineer friend of mine. He has been
>helping them increase the efficiency of their solar cells. After he
>"meddled" with their operations a little bit they were amazed at getting
>15% efficiency!!! (Yes...fifteen percent!)

We have to be careful when talking about solar cell efficiency to make sure we're all talking about the same thing. Violet cells have achieved 36% efficiency in the lab, but that's the efficiency for converting the wavelengths to which they are sensitive to electricity. That's not the efficiency from total solar input to electricity.

On a clear day, the total solar input is 1 kW/m^2 at the surface with the panel perpendicular to the sun. Now the solar flux approximates a black body, and consists of a spectrum of photon energies (and hence frequencies). A solar cell is a quantum device, and can't use photons with less than its bandgap energy. That means that the considerable part of the solar input which consists of IR is useless for our purpose, and only serves to heat the solar panel, which reduces its efficiency. And photons above the bandgap energy throw away their extra energy above that needed to liberate the electron into lattice recoil, IE heat. So only a part of the solar energy contained by shortwave photons is fully utilized.

Further, the panel area is not 100% active. There is the metalization which blocks solar input over part of the cell area, and there is the mechanical mounting of the individual crystaline cells, which always leaves some waste space. So we always wind up with much less than 1 kW/m^2 of electrical output from a solar panel.

In other words, we can't approach 100% efficiency very closely at all. When most cell makers quote efficiency, they disregard the input energy in the solar spectrum which can't bridge the bandgap, and they disregard all area except active cell area. This makes the efficiency number look relatively good, but when you factor in those things, the efficiency number drops rather dramatically. Add in other factors like metalization resistance and recombination losses, and panel efficiency drops to only a few percent at best.

A panel that could deliver 150 watts/m^2 of electrical power (without concentrators) would be a very remarkable achievement. But a panel that can convert 15% of the portion of input energy at or above the bandgap energy striking just its active area is rather mundane.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2507. Re: ?RF PROBE RECOMMENDATIONS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: tmaldred@mail.comox.island.net
Message-ID: <31751771.348564705@news.comox.island.net>
Source record: 105939

On Wed, 17 Apr 96 06:38:47 GMT, w7el@teleport.com (Roy Lewallen) wrote:

>In article <3173c3a9.261607939@news.comox.island.net>,
> tmaldred@mail.comox.island.net (Thomas M. Alldread) wrote:
>
>>>We have a high frequency probe model number RF241. Specs on this probe
>are:
>>>. . .
>>>Accuracy Range: Plus/Minus 1 dB 100KHz-250MHz
>>> Plus/Minus 3 dB 250MHz-650MHz
>>>. . .
>
>> My intended application is for generating calibration data for a
>>digital readout HF peak and average reading power meter. I would use the
>>probe to measure the voltage across my 50 Ohm dummy load for setting the
>>various power levels needed for the A-D calibration points. For higher
>>power levels a resistive voltage divider would be utilized to ensure the
>>50 Volt maximum specification for the probe would not be exceeded.
>
>+/- 12% (1 dB) or +41/-29% (3 dB) accuracy seems pretty poor for this
>application. And that doesn't include loading effects and inaccuracy of the
>meter.
>
>Roy Lewallen, W7EL

Greetings Roy:

Thanks for the input!

In my application I am only interested in accurately measuring
the HF spectrum which is only about 12% of the bandwidth of the +/- 1dB
specification which covers 0.1-250 MHz.

On a power scale the +/- 1dB spec would work out to
approximately +/- 25 % of inaccuracy. However, I expect that most of the
error would occur above 30 MHz were the reactance factors become more
difficult to deal with. I think that the probe accuracy may be adequate
within the HF spectrum considering my application. I would sure like to
hear from somebody who has first hand experience with comparing these
probes to a calibration standard.

The loading effect of the probe is an interesting question. The
manufacture specifies the input capacitance of the probe as 5pF
(XC=~1KOhm at 30MHz) which would not impose a load of much significance
across the 25 Ohm (paralleled 50 Ohm source and load) circuit impedance.
Possibly a low Q peaking inductor series circuit could be employed in

the HF spectrum test jig to cancel the loading effect from the shunt capacity at the expense of response above 30MHz.

To date I have not been able to get any information on the magnitude of the resistive portion of the probe input Z. I presume it is probably fairly high as a competitor's product is specified at 30KOhm. I wonder if there is anyone in this group that has had experience with this particular (or similar modern DMM RF probe) that would like to comment?

At a cost of $65 U.S. this probe would seem like a cost effective extension to a DMM for RF measurement assuming it could be used to make reasonably accurate measurements across the HF spectrum bandwidth.

I wonder if possibly these modern RF probes employ new technology which provides better linearity at lower voltages compared to the conventional diode detector RF probes that have been around for decades?

73 and many thanks again for the input!

Very Best Regards: Thomas M. Alldread
E-mail: tmaldred@mail.comox.island.net
packet radio: VE7TMA@VE7KGW.#NVI.BC.CAN.NA

2508. Re: ?RF PROBE RECOMMENDATIONS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.829777055.18620.jwicklun@mycroftxxx.halcyon.com>
Source record: 105940

> I am contemplating the purchase of an RF probe for my DMM.
> Wavetek manufacture a model RF241 probe with interesting

> I understand that both Fluke and B&K make similar probes. It
> would be interesting to hear comments about alternate choices as
well.
I bought a similar probe from HP, and it is certainly a useful tool,
but not the same as a good RF voltmeter or RF Power meter. I played
with the HP probe and a calibrated signal generator; and at 20MHz
accuracy falls off fast for signal levels below 100 or 200mV.

I expect that it is similar to the RF probe circuits that I've seen in
the ARRL Handbook.

73.....de KI7RH (Jay)

2509. Re: Ten-Tec 1209 transverter kit: comments?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: wb6zif@deltanet.com
Message-ID: <4l3s6s$816@zoom2.telepath.com>
Source record: 105941
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I'm interested in the 2m-6m transverter. Any comments on operation?
Is it worth getting? I'm thinking about ordering one.

2510. Re: Solar Cells Efficiency?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <31756FCA.5301@millcomm.com>
Source record: 105942

Jerry Flanders wrote:
>
> Keep in mind that I am talking about 6 square feet of collector area,
> and there is as yet no protective glass or cover of any kind. Quickie
> rough calculations tell me my efficiency seems to be way down.
>
> Any comments? What charge current do you guys get per square foot with
> PV cells? They have been unused for a long time - any reason to expect
>
> improvement in the future? Maybe I just got rejects - would rejects be
> as consistent as this? Do rejects deliver low current, or low voltage,
> or what?
>
> Jerry W4UKU flanders@groupz.net

Hello Jerry,

You didn't include enough real information to exactly answer your questions, but I can get you started.

"Reject" solar cells come in many flavors. Bear in mind that calling a low-output cell a 'reject' is like calling a 90ns RAM a reject. Most ram's come out 70ns, but a few come out at 50ns and a few at 100ns. There's always a statistical distribution in the production. Same with solar cells or any other similar device. A 2:1 range in parameters is normal.

In re: efficiency and charge current

Solar cells come in three main types, amorphous, poly-crystalline, and single-crystal. They could also be made of two major material groups, silicon or gallium arsenide. On top of that, they can be single-junction or multi-junction. Normal efficiencies for all these types will vary from 1 to 25% depending on the type.

Amorph Sil - 1-4%
Poly Sil - 3-9%
1-crys Sil - 8-15%
1-cry GaAs - 10-17%

above are typical ranges for production old enough to be surplus.

Finally, incoming energy, or 'insolation', is commonly taken to be 800-1000 watts/sq meter. Sq m = 8.45 sq ft.. At 900w/sqm = 106.5 w/sqft. If array is 12% efficient, that's about 13 watts/sqft, or 912 ma at 14.0 volts (12v batt charge voltage) per sq ft of -active- area.

Most cells produce maximum power when loaded down to a specific voltage (varies with type and mfg.). If you've got normal single crystal silicon, I think it's around .55v, but that's a hazy memory.

You can easily find the best point for your stuff by measuring current while loading to various voltages, and plotting the points as a power (I*E) curve.

Finally, power falls off if the angle to the sun isn't accurate.

Regards,

Richard Hager

2511. RE: How can I print directly on PCBs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: Nathan Sykes <nsykes@abercrombie.polaristel.n>
Message-ID: <01bb2cb3.fba540e0$05160ace@nsykes>
Source record: 105943

On Wednesday, April 10, 1996, Glenn Sparks wrote...

> One method that I have used that I've never seen mentioned is using an
> HP single pen flatbed plotter with a sharpie mounted in place of the
> std pen. The ink from a sharpie will resist the etch.

I've read that red sharpie ink resist better than black. Never tried it.

Nathan, KD4GHG

2512. Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: Steve Clements <steve.clements@amigabee.posnet.co.uk>
Message-ID: <960417201352110 81@amigabee.posnet.co.uk>
Source record: 105944

When I wanted to make a nice front panel for some of my kit, I used a simpler and cheaper method than anodising,silk screens or engraving. A more "amateur" method :-)

Stating with the bare ally panel, I rubbed it down with 1200 (fine) wet and dry, and sprayed it with a cellulose (speeling?) filler/primer as bought in car shops. This gives a good flat white base.

Then application of the nice fonts you can get in Letraset (rub down lettering) these days for the text.

A cellulose clear laquer to protect the lettering , several layers will finish the job.

I've used this on gear I take /P contesting, and doesn't seem to wear off
at all.

A few pounds and few hours and sorted.

73 Steve
-
-=-=-=

2513. Re: Newbie needs help with a local set

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: "Vaughn T. Combs" <combs@borg.com>
Message-ID: <3175B2F6.1BE1@borg.com>
Source record: 105945

> >>Have you called Harris?
> >
> >C'mon, Jack, he said $100, not $100,000. Might find a good, used
> >"liscience" at that price, though...
> >
> >Seriously, try the next hamfest flea market in your area. Flash that
> >$100 bill and then stand back. One of 'em is sure to take the bait.
> >Git you a "liscience" and a whole box of goodies to play with, I'll bet.
> >
> >Sorry. Just couldn't resist <g>.
> >
> >de Mike (TA2ZG/W2AV) Remote Sysop TA2EM BBS - first PRBBS in Turkiye
> >Amateur Packet Radio: TA2ZG@TA2EM.#IST.TUR.EU
> >Internet (email only): Michael C. McHugh <MichaelM@doruk.com.tr>
>
> And you people keep wondering why we laughed at aol! Here's another one
> that managed to somehow gain access to Mom & Dad's computer...
>
> <sure sonny...you want FRIES with that 'liscience'??>
>
> ;)
>
> sorgatz@avatar.tti.com (or:es@soldev.tti.com) KB6LUY (private email:eks@westworld.com)
> TTI 3100 Ocean Park Blvd. Santa Monica, CA 90405
> "ANY COMMENTS OR STATEMENTS MADE ARE NOT NECESSARILY THOSE OF CITICORP, ITS SUBSIDIARIES
> OR AFFILIATES." (Copyright 1995, ARR-permission to store/archive hereby granted)

Great! Why not make this kid feel like a total idiot? Next time why not
try to answer the kid's question instead of spewing this crap.

Just a suggestion,

Vaughn
N2BHA
(response is neither required nor desired)

2514. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: Gordon B Slater <gordy@gbscomms.demon.co.uk>
Message-ID: <786576622wnr@gbscomms.demon.co.uk>
Source record: 105946

In article: <1996Apr13.172317.25604@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman) writes:

> >I would very much appreciate any advice on how to create silk-screen-like
> >panels.
>
> Create and use a real silk screen. I know of no better method, and it
> is not hard to do. If you can make a PC board, you can make a silk screen.

any chance of elaborating the technique or pointing us to a URL Gary?
I've been paying screen-printers for years, but if I can do it here
on the bench I'll have much more neer money left over....

TIA
Gordy
--

* Gordon B. Slater Email: gordy@gbscomms.demon.co.uk *
* G B Slater (Communications) Fax: (01665) 605680 *
* http://www.netlink.co.uk/users/gbscomms Sales/Service/Ops *
- -
* To quote an infamous lady... *
* "Oh, 'tis my delight on a shiny night in the season of the year" *

2515. Re: RFI: Eico 710 Dipper Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4l353h$172@hpcvsnz.cv.hp.com>
Source record: 105947
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Watts (galen@lamar.ColoState.EDU) wrote:
: Hello, I have obtained an Eico model 710 Grid Dip Meter, covering
: 0.4 to 250 MHz, but no coils. Internal inspection reveals three
: terminals for the coils, and a small test with a coil of wire didn't
: come out too nice.
: Anybody have any information on how the various coils are wound or
: where to get a copy of a manual?

Only the lower frequency coils used all three terminals. I can check
mine out, but as I recall, for all the HF bands only the outer two
terminals are used. Most of the coils are single-layer solenoids on
polystyrene forms the diameter of the pin circle.

--
Cheers,
Tom
tomb@lsid.hp.com

2516. 2m 4-1000 amplifier / Big amp references.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Apr17.085926.60175@ucl.ac.uk>
Source record: 105948

Someone, who I've lost track of, wanted info on building a 2m amp using the 4-1000 (I think). I thought I had a reference, but it turns out it used the 5-500 500W pentode. Here's the reference anyway. It may be of use, since 5-500 is a large glass bottle, more similar externally to the 4-1000 than the usual ceramic triodes or tetrodes that make up most of the designs for big amps in amateur publications.

Campbell, R. W., "Kilowatt linear amplifier for 2 metres", 73 Magazine, Dec 1973, pp 29-35.

Perhaps the person who wanted the info would e-mail me so I know he has got the reference. It will save me looking any further for his e-mail address.

For anyone interested, heres a list of references that might be of use to anyone thinking of building a large amp.

References.

1) 'Modern Circuit Design For VHF Transmitters', Barber et al, Part 1; CQ November 1965, pages 30 - 34; Part 2 December 1965, pages 40 - 92.

2) 'A 2-KW PEP Amplifier for 144MHz.' Parts 1 and 2, E.L. Meade Jr., QST December 1973, pp 34 - 38 and Janurary 1974 pages 26-33.

3) 'High-Power Grounded-Grid Amplifier for 144MHz.' VHF-UHF Manual, G.R. Jessop, 4th edition, Chapter 5, pages 87 to 94. Radio Society of Great Britain.

4) 'Design data for a Two-Kilowatt VHF linear', R.I.Sutherland, Ham Radio, March 1969, pp6.

5) 'Design an amplifier around the 3CX1200A7', W.J.Byron, Ham Radio December 1987, pages 33 - 42.

6) 'A high power 2m Amplifier Using the new 3CX800A7' D.D.Meacham, QST April 1984, pp 11 to 15. Also see ARRL handbook 1991, chapter 31, pages 46 to 50.

7) 'A 144-MHz Amplifier Using the 8874' R.F.Rinaudo, QST January 1972, pp24 to 29.

8) 'A Grounded-Grid Kilowatt Amplifier for 432 MHz', S.J. Powlishen, QST October 1979, pp 11 - 14.

9) 'Improving the K1F0 8874 432MHz Amplifier', S. Powlishen, QST, July 1987, pp20 - 23.

10) 'A 432-MHz, 1500-watt amplifier', F.J.Merry, Ham Radio, July 1985, pp40 - 46.

11) 'New Ideas for the 2-meter Kilowatt', T.F. McMullen et al, QST February 1971, pages 24 to 30.

12) 'A high-Efficiency 2-Meter Kilowatt', QST February 1960, pp 30 - 33.
13) 'Top-Efficiency at 144Mc. With 4X250Bs' L.D. Breyfogle, QST December 1961, pp 44 - 48.

14) 'High-power amplifier for 144MHz', VHF-UHF Manual, 4th Edition, edited by G.R.Jessop, Radio Society of Great Britain, chapter 5, pages 94 to 96.

15) 'Kilowatt Amplifiers for 50 amd 144Mc.' E.P. Tilton, QST February 1964 pp 11 - 142.

16) 'A practical Kiowatt Amplifier for 432MHz' A.T.Margot, QST August 1964, pp 47 - 50.

17) 'The W1QWJ 432-MC. Kilowatt Amplifer' QST February 1966, pp 11-144.

18) 'Some Hints on Push-Pull 432-MHz Power Amplifiers', Tilton, QST February 1970, pp 44-45.

19) 'A Strip-Line Kilowatt Amplifier for 432MHz' R.T Knadle, Part 1, QST April 1972, pages 49 to 55; Part 2, QST May 1972, pages 59 to 79. See also 'Feedback' QST, July 1972, page 47.

20) 'A Coaxial-Tank Amplifier for 220 and 420Mc.', R.D.Brayley, QST May 1951, pp39.

21)'Using the 4X250B on 144,220 and 432Mc', M.P.Southworth, QST February 1957, pp31 to 132.

22) 'The perseids Powerhouse', C.M. Maer, QST October 1959, pages 33 - 186.

23) 'Dual-Band Stripline Amplifier/Tripler for 144 and 432MHz.' R.T. Knadle, Ham Radio, February 1970, pages 6 to 16.

24) 'VHF/UHF World', by J.Reisent, Ham Radio, January 1985, pp 97, and February 1985 page 38.

25) 'Care and Feeding of Power Grid Tubes' Eimac devision of Varian.

26) 'A Legal-Limit 2-Meter Tetrode Amplifier', The ARRL Handbook, 1991, chapter 31, pages 57 to 72.

27) 'VHF-UHF Manual', 3rd or 4th edition, Radio Society of Great Britain.

28) 'The ARRL UHF/Microwave Experimenters manual',1990, ARRL.

29) 'The UHF Compendium', K.Weiner, Parts 1 and 2, Verlag Rudolf Schmidt, 1982. English edition.

30) 'Parallel 4CX150B Amplifier for 144MHz', S. Gross, QST March 1975, pp 11.

31) 'A three-tube 4CX250B linear amplifier', D. Dobricic, Ham Radio, April 1987, page 63 - 62.

32) 'High-power linear for 1296MHz', P.Laakman, QST August 1968, pp8 - 17

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

2517. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: theo@gtr.tr
Message-ID: <4l1mue$roc@newsflash.hol.gr>
Source record: 106025

```
test only test
```

2518. Re: Powerless communication?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: zac@galaxy.nsc.com
Message-ID: <Dpzrzs.6rK@voder.nsc.com>
Source record: 106026

I suppose one could make a big loop antenna which is resonant with WWVH or whatever transmits the most power in the area and rectify that for a source of power. The trouble is how would you know if it is tuned correctly?

If you get tired of trying to figure it out, you can go play with Ginger and Mary-Anne for a while....

Heckuva deal!

Zachrey Helmberger
Amplifier Design Engineer 408-721-6020 zac@galaxy.nsc.com
National Semiconductor Corporation
Data sheets at http://www.national.com/ my opinions are MINE!

2519. Hallicrafters SX-28A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <4l23h1$ntk@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 106027

I still have my very first receiver -- an 80 pound boat anchor -- in storage for many an moon. Any interest?

2520. Re: Glass solar panel

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-17 00:00:00 UTC
From: allent@mnsinc.com
Message-ID: <4l23hc$ntk@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 106028

[No readable article body recovered]

2521. Need Decca marine radar schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4l4g0i$1co@crash.microserve.net>
Source record: 105949

I have just fixed minor problem in display unit (broken wire on rotating yoke) and found the problem by using parts layout picture inside unit. However, to help with future problems I would like to obtain a schematic of at least the control/display head. It is a model "DECCA SUPER 050" made in England dated 11/74. Any help would be much appreciated. Thank-you, KD3SH

2522. question on RC radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: Dave Lagzdin <David.Lagzdin@canrem.com>
Message-ID: <4l5jn4$nu5@sam.inforamp.net>
Source record: 105950

I have come to the conclusion from reading this group over the past year that you guys do indeed know everything about everything!

I seem to recall that the typical Radio Control receiver is an AM beast which put out some kind of variable width pulse to the servos.

Can anyone provide or point me to specifics: range of pulse width, frequency of pulses etc?

Thanks

Dave

--
is this where I put my tagline?

2523. How to interface Osc "cans" w/ CMOS @ 12VDC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: cyamamot@kilroy.jpl.nasa.gov
Message-ID: <4l5l5k$bn5@netline-fddi.jpl.nasa.gov>
Source record: 105951
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Greetings,

This may seem like a simple question, and I hope it is. But not having used these components before, I'm not sure.

I have a CMOS circuit running off 12VDC. I need a clock source. Digikey has some Oscillator "cans" (I call them "cans" because they are in those silver cans the size of a 14pin DIP) from ECS that are labelled TTL/CMOS.

What I don't know is, can I interface these ECS TTL/CMOS oscillators directly to my CMOS circuit? I believe these oscillators run off of 5VDC so do I need a pullup to 12VDC on their output? I'm driving a CD4518 chip for divide purposes.

Thanks in advance for any advice.

Regards,
- Cliff

2524. Re: Help: need altimeter device for ham balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: Tom Kreyche <tkreyche@well.com>
Message-ID: <4l5jc0$1ap@nkosi.well.com>
Source record: 105952

SenSym has a 'Solid-state Pressure Sendors Handbook' -408-954-1100
Motorola has 'Pressure sendor Device Data' DL200/D -602-244-6900

Tom KG6YJ

2525. Re: HAM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: Steve Siegel <steves@clark.net>
Message-ID: <317653B0.49E8@clark.net>
Source record: 105953

RUSS WUERTZ wrote:
>
> Date: 10-12-95 (18:45) Number: 13348 of 13367 (Refer# NONE)
> To: All
> From: Russ Wuertz
> Subj: ELF RECIEVING SYSTEM
> Read: NO Status: PUBLIC MESSAGE (Echo)
> Conf: Shortwave (35) Read Type: TEXT SCAN (+)
>
> For the interested party in E.L.F.:
>
> An ELF recieving system, like what Congress is using on C-Span (I guess?)
> can be had from Panaxis Productions assembled for 79.00 . Its the L500
>
> There is also an Ethereal Plane Monitor that can be had for 32.00 dollars
> assembled. It is the EPM. It recieve that annoying VLF that are
> "voices" that the police department seem to be broadcasting. (That also could
> be repeating your thoughts) They refer to it in the catalog as "whistlers"
> and the "dawn chorus". For me, they use the voice of a little girl that the
> locals named, "the girl with the desperate voice."
>
> For better Quality VLF sound listening and possible recording, you can get]
> the L700 for 109.00 bucks.
>
> They seem to be legal and are sold in Paradise, CA. (916) 534-0417
>
> There is also a micro-harminizer that costs 119.00 bucks that broadcasts
> hormonics of 7.83 Hz that will block your thoughts from being stolen.
> 1-800-456-9887.
>
> If anyone else has any devices that are in this field, please let me know.
> There are people being terrorized right now and are in hospitals because of it.
>
> --- FLAME v1.1
> * Origin: Techtalk BBS, Cocoa, FL 407-635-8833 (1:374/1)
>
> <<<>>>

I'm so glad my multi-vitamin contains Lithium.
****
73 de N3WUU
SSiegel@nea.org
Steves@clark.net

2526. Re: QST Conflict of interest again.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4l5tbt$16b$1@mhadf.production.compuserve.com>
Source record: 105954

I know I should not wade in on this but "conflict of interest?" I think it is pretty clear that readers of an article know that the author has some vested interest. Right? Now if he offers a kit from his article is this a conflict of interest? Is there a law against making some money for your work? Is QST supposed to be the Peoples Republic of Amateur Radio?
Yes, I am one of those writers with a vested interest and if I read your comments correctly I would fit your conflict of interest. I just happen to think we should support US designers and kit builders. Not try to trash them for having an interest in paying a few bills.
--
73, Jay WB0VNE - AAV5TH

2527. Re: PC Board Software???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4l5ten$16b$2@mhadf.production.compuserve.com>
Source record: 105955

Check the HIRAM BBS for a demo copy of Circad. I have a "conflict of interest" in saying much more. Even with my jaded interest I think it is a very good program. Plus it is sold at a major discount to Ham radio ops.
--
73, Jay WB0VNE - AAV5TH

2528. Re: Question: Having Circuit boards made: Whe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: mhorn22377@aol.com
Message-ID: <4l61dl$a9r@newsbf02.news.aol.com>
Source record: 105956

From your E-mail address, I gathered that you are a member of America Online.
Go to the "Software Library" and search for "PCB" or "Schematics."
It should return a nice listing of fully functional shareware packages.

Chemicals or other materials can be obtained from Digi Key, Radio Shack or some other electronics company.

Sincerely,
Michael Horn
MHorn22377@aol.com

2529. Re: How to interface Osc "cans" w/ CMOS @ 12VDC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: Lee Allen <Lee@hello.co.uk>
Message-ID: <829860897snz@hello.co.uk>
Source record: 105957
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

In article <4l5l5k$bn5@netline-fddi.jpl.nasa.gov>
cyamamot@kilroy.jpl.nasa.gov "Cliff Yamamoto" writes:

> Greetings,
>
> This may seem like a simple question, and I hope it is. But not having
> used these components before, I'm not sure.
>
> I have a CMOS circuit running off 12VDC. I need a clock source. Digikey
> has some Oscillator "cans" (I call them "cans" because they are in those
> silver cans the size of a 14pin DIP) from ECS that are labelled TTL/CMOS.
>
> What I don't know is, can I interface these ECS TTL/CMOS oscillators
> directly to my CMOS circuit? I believe these oscillators run off of
> 5VDC so do I need a pullup to 12VDC on their output? I'm driving a
> CD4518 chip for divide purposes.
>
> Thanks in advance for any advice.
>
> Regards,
> - Cliff

You can't connect direct due to the differing supplies and thus logic
levels. You'll need to use a logic level shifter as an interface.
For example MC14504BD = hex logic level shifter.

If your application is non critical and/or low frequency you could use a
single transistor and a couple of resistors as a level shifter. Crude
but easier to patch into a circuit as an after thought.

--
Lee Allen. Altek Instruments Email: Lee@hello.co.uk
Walton-on-Thames, Surrey UK Phone: 01932 232411 & 244110
http://www.hello.co.uk/altek/ Fax & Vox mail: 01932 227279

2530. Re: QST Conflict of interest again.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4l6fnd$enq@newsbf02.news.aol.com>
Source record: 105958

In article <4l5tbt$16b$1@mhadf.production.compuserve.com>, Jay Craswell
<73016.27@CompuServe.COM> writes:

>
>I know I should not wade in on this but "conflict of interest?" I think
it
>is pretty clear that readers of an article know that the author has some
>vested interest. Right? Now if he offers a kit from his article is this
>a conflict of interest? Is there a law against making some money for
your
>work? Is QST supposed to be the Peoples Republic of Amateur Radio?
>Yes, I am one of those writers with a vested interest and if I read your
>comments correctly I would fit your conflict of interest. I just happen
to
>think we should support US designers and kit builders. Not try to trash
them
>for having an interest in paying a few bills.
>--
>73, Jay WB0VNE - AAV5TH
>
>
Hi Jay,

If you wrote a technical consruction article that had solid theory and offered to help supply parts at a profit I'd have no problem with it, as long as you listed alternate sources (when available).

If you wrote a historical article that steered readers into your personal product with **less** than "factual and unbiased data" I'd have a big problem with it.

Any technically based historical article should present unbiased and correct technical information to the reader, not become a thinly veiled sales pitch at the conclusion. In this case the "pitch" included direct references to products manufactured by the business the author is president of, products that have no relationship to the technical content of the article.

The self serving summary comments could have been omitted with no loss in historic accuracy of the article. The technical accuracy would hve beeen improved. It is especially distressing when the article embellishes facts in order to "paint" the author's products in a more favorable "light" than other competitive products.

By the way, the company is not a US company...if that makes any difference. To me it doesn't, even though the company it hurts is a US

manufacturer. I'm more concerned with technical inaccuracies and the poor editing.

73 Tom

2531. Re: ?RF PROBE RECOMMENDATIONS?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4l600s$lj6@hpcvsnz.cv.hp.com>
Source record: 105959

Jay Wicklund (jwicklun@mail.halcyon.com) wrote:

(Writing about RF diode detector probes...)
: I bought a similar probe from HP, and it is certainly a useful tool,
: but not the same as a good RF voltmeter or RF Power meter. I played
: with the HP probe and a calibrated signal generator; and at 20MHz
: accuracy falls off fast for signal levels below 100 or 200mV.

There's an article in the Dec. 1995 "HP Journal" about "zero bias detector diodes." There are also some ap notes in the HP "Communications Components" catalog about diode RF detectors. It turns out that if you operate them into an appropriate load impedance (generally up near 1 megohm), the output _voltage_ is very nearly linear with input _power_ (as measured in a 50 ohm load) up to 10's of millivolts, and above the couple hundred millivolt level, they act as peak detectors. When I first started playing with a simple diode detector for close-in fox hunting work, I was amazed to find that I could detect RF down to a couple hundred microvolts. That makes it useful up to a few hundred feet from the hidden fox transmitter in many cases.

--
Cheers,
Tom
tomb@lsid.hp.com

2532. Re: BFR-91 equivilant

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-18 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <3176D398.6F6E@millcomm.com>
Source record: 105960

Russ Renaud wrote:
>
> Could someone tell me what what be an equivilant to a BFR-91?
>
> I can order them locally thru Active, but it's a $25.00 minimum.
>
> tnx

Hi Russ,

If you're building a pre-defined circuit that specifies a BFR91, you might want to stick with it. In the freq range that this part is used in, the circuits usually depend on the xsistor specs being a certain value (the cap, induct, gain, etc.).

Just changing from the SOT to the TO92 package will quite possibly change or inactivate the circuit.

Put your list together for the Active order I guess...

Luck,

Richard Hager

Ah-ha! Design Group, Inc.
Precision CNC Technology
612-641-1797 fax: 8681

2533. Re: homemade acoustic coupler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: "Robert W. Lewis" <rlewis@staffnet.com>
Message-ID: <3178409F.4F16@staffnet.com>
Source record: 105829

Carl Steen wrote:
>
> Is it possible to build a cheap acoustic coupler for
> computer modem use?
> My situation is I have a cell phone in a cabin with
> power but no phone lines.
>
> Since cell phones are smaller than regular phones,
> a normal acoustic coupler will not work (plus they
> are expensive).
> Would it be possible to run separate small mikes
> from each, speak and listen ends of the phone
> (each mike would be covered with some kind of
> elastic soundproofing material I guess) and
> run these two separate lines sever feet away,
> amplify them and receive these signals into
> separate corresponding ends of computer modem
> line jack?
>
> I don't think I have written this very clearly.
> The computer talks through a phone line via
> a modem and phone line jack.
> The phone line jack must have wires for sending
> and receiving audio.
> I am looking for a cheap homemade solution to
> this.
> Perhaps if I ran the two mike wires to small
> speakers which were placed on a regular sized
> phone receiver, then ran the phone jack from
> it into the computer.
>
> any comments on this
>
> Carl Steen

I do quite a bit of work with data via cell phones (normally mobile -
moving). Data over cell phone is not as simple as data over a normal
phone (if you want it to be reliable). I use a special modem with MNP10
protocol (packets with error checking). I doubt that you will be very
successful with an acoutic coupler - but then I have never actually
tried that.

2534. Re: Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: Don Wilhelm <w3fpr@nando.net>
Message-ID: <4l6po3$r1p@castle.nando.net>
Source record: 105961

Steve Clements <steve.clements@amigabee.posnet.co.uk> wrote:
>When I wanted to make a nice front panel for some of my kit, I used a
>simpler and cheaper method than anodising,silk screens or engraving.
>A more "amateur" method :-)
>
SNIP...

I have used similar methods, but instead of "decorating" directly on the front panel of the enclosure, I sometimes use plastic laminate - the stuff that covers kitchen counters. It comes in many colors and takes rub-on lettering well. I cut the holes to match the front panel controls, etc. then letter it, and coat it with a CLEAR polyurethane - I use Carver-Tripp's SuperPoly (comes in either gloss or satin). This is a fast drying, water-based polyurethane that is clear (unlike oil based polys that are yellow). I spray it on, but it can be brushed as well. 3 coats completes the job.
Note, I would not use it on the metal, but on the laminate, it sticks just fine provided there is no grease on the laminate to start with (be careful about oils from your hands as well).

Experiment, there are lots of things that work.

73, Don

2535. Re: question on RC radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: eugene@loop.com
Message-ID: <4l6rf6$47o@jerry.loop.net>
Source record: 105962

> Dave Lagzdin <David.Lagzdin@canrem.com> writes:
>
> I have come to the conclusion from reading this group over the past
> year that you guys do indeed know everything about everything!
>
> I seem to recall that the typical Radio Control receiver is an AM
> beast which put out some kind of variable width pulse to the servos.
>
> Can anyone provide or point me to specifics: range of pulse width,
> frequency of pulses etc?
>
> Thanks
>
> Dave
>
> --
> is this where I put my tagline?
>
>
>
>>>>
All newer rc radios are FM typical pulse width is 1.0 to 2.0 ms. with 1.5 being neutral
The digital PCM encoding scheme also converts to these pulse widths for the servos, so they can be used with both types of
encoding schemes PCM (pulse coded modulation) and PPM (pulse position modulation).

De Joe Orrico WB6HRO

2536. Re: question on RC radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: Peter Trapp <alpha10@digital.net>
Message-ID: <4l6vmu$fm7@ddi2.digital.net>
Source record: 105963

Dave Lagzdin <David.Lagzdin@canrem.com> wrote:
>
>I have come to the conclusion from reading this group over the past
>year that you guys do indeed know everything about everything!
>
>I seem to recall that the typical Radio Control receiver is an AM
>beast which put out some kind of variable width pulse to the servos.
>
>Can anyone provide or point me to specifics: range of pulse width,
>frequency of pulses etc?
>
The typical R/C system can be AM or FM.

The neutral position pulse width is approx 1.25 Millisecond wide, while the
range is approx 1 to 1.5 ms at the extremes. The pulse frame repetition rate is
approx 60 frames per second (each frame contains a pulse for each channel
ie. 4 channel r/c system - 4 pulses per frame).

I hope this answers you questions.

BTW You might find one of the rec.models.rc news groups interesting
--
****
* Peter Trapp KD4CN - alpha10@digital.net *
****

2537. Re: CTCSS decode with DSP??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: gfiber@halcyon.com
Message-ID: <4l81ai$o3i@news.halcyon.com>
Source record: 105964

tomb@lsid.hp.com (Tom Bruhns) wrote:

>Matt Roberts (mattro@radware.net) wrote:

>: I'm working on an amateur project with DSP, in which a part will be to decode a PL tone from
>: receiver audio. At this point I am inclined to use a phase-locked loop emulated by software.
>: Has anyone worked with this type of project before, perhaps something similar used for
>: DTMF? I'd like to hear from you!

>Analog Devices publish a set of books on DSP applications. My set is at
>home at the moment, but I think it's in "Digital Signal Processing
>Applications Using the ADSP-2100 Family" that they give example
>programs and a discussion of tone decoders. They implement a multi-
>channel DTMF decoder, just to illustrate that there's _plenty_ of
>processing time to do this sort of task. The filter they describe
>is more closely related to an FFT than to a PLL. I believe it uses
>the Goertzel algorithm, which you can find in other books on sampled-
>time processing.

>--
>Cheers,
>Tom
>tomb@lsid.hp.com
Do not overlook the comp.dsp news group for this information.

Gary

2538. Re: question on RC radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: Alan Wolke <74150.451@CompuServe.COM>
Message-ID: <4l832bmdc1@mhade.production.compuserve.com>
Source record: 105965

>I seem to recall that the typical Radio Control receiver is an
>AM beast which put out some kind of variable width pulse to the
>servos.
>
>Can anyone provide or point me to specifics: range of pulse
>width, frequency of pulses etc?

Dave,

The servos in most hobby RC systems rely on a pulse stream to set their position. The pulse width determines the position, 1.5ms for center, 1.0ms for full left, and 2.0ms for full right. The pulses repeat every 20ms. Each servo channel is transmitted in series in a frame (20ms). The RF output begins a frame by turning off for a fixed modulation time, usually 0.5ms, then goes to full amplitude for the remainder of the channel 1 pulse width (0.5ms to 1.5ms). This is followed by the beginning of channel two, which also starts out with 0.5ms off time.... All of this is followed by a longer sync pulse of RF, and the cycle repeats. The National Semi LM1871 and 1872 used to be popular encoder/tx and rx/decoders used in these systems. They've got a decent description of the methods.

Alan

--
++
+ I usta cudn't spel enjinere, now I ar wun +
++

2539. Impedance of Striplines -BASIC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: BILLY@urhep.pas.rochester.edu
Message-ID: <1996Apr19.142321.27167@galileo.cc.rochester.edu>
Source record: 105966

```
The following program was written in IBM BASIC (BASICA) and then
converted to text. The section for the flat strip uses a fairly exact
formula, but the section for the round strip uses an aproximation that
is valid only for D<<H.

Enjoy.

-Bill VanRemmen, KA2WFJ
billy@urhep.pas.rochester.edu
URHEP::billy
http://www.pas.rochester.edu/~bill/

My opinions. No one in their right mind would claim otherwise.
================================================================================

It is the doom of men that they forget. -Merlin

================================================================================

10 REM ************************************************************

20 REM * *

30 REM * Microstripline Calculator *

40 REM * *

50 REM * written by Bill VanRemmen, KA2WFJ *

60 REM * *

70 REM * for the University of Rochester Amateur Radio Club *

80 REM * *

90 REM * K2ZWI *

95 REM * *

98 REM ************************************************************

99 GOTO 1000

100 CLS

105 PRINT

108 PRINT

110 PRINT"This program finds the appropriate width of a microstripline"
```

```
120 PRINT"of a given impedance when etched on PC board material."

180 PRINT

185
PRINT"*******************************************************************************"

187 PRINT

190 PRINT"Please enter the following quantities..."

195 PRINT

200 INPUT"Desired impedance of microstripline: ";Z

220 INPUT"Thickness of substrate : ";D

230 INPUT"Dielectric constant of substrate : ";ER

240 PRINT

242 A=((Z/60)*SQR((ER+1)/2))+(((ER-1)/(ER+1))*(.23+(.11/ER)))

244 B=(377*3.14159265359#)/(2*Z*SQR(ER))

246 W1=(D*8*EXP(A))/(EXP(2*A)-2)

248 W2=(D*2*(B-1-LOG(2*B-1)+((ER-1)*(LOG(B-1)+.39-(.61/ER)))/(2*ER)))/3.14159265359#

250 W=W2

252 IF (W1/D)<=2 THEN W=W1

254 IF (W2/D)>2 THEN W=W2

260 PRINT

270 PRINT"Trace Width = ";W

275 PRINT"Velocity Factor = ";100*(1/SQR(ER));" %"

280 PRINT

290
PRINT"*******************************************************************************"

300 PRINT

310 PRINT"Do another? <Y or N>"

320 A$=INKEY$

330 IF A$="" THEN 320

340 IF (A$="N") OR (A$="n") THEN 1000 ELSE 100

1000 CLS

1010 PRINT "Which geometry of microstripline would you like calculations for?"
```

```
1020 PRINT

1030 PRINT"1: o (wire over ground plane)"

1040 PRINT" ____________________"

1050 PRINT:PRINT

1060 PRINT"2: _"

1070 PRINT" ____________________ (PC board trace over ground plane)"

1080 PRINT:PRINT

1085 PRINT"3: Quit."

1090 A$=INKEY$

1100 IF (A$<>"1")AND(A$<>"2") AND (A$<>"3") THEN 1090

1110 ON VAL(A$) GOTO 2000,100,2210

2000 CLS:PRINT:PRINT

2010 PRINT"This routine calculates the wire diameter to produce a"

2020 PRINT"given impedance microstripline when the wire is over "

2030 PRINT "a ground plane."

2040 PRINT:PRINT"*****************************************************************
*******"

2050 PRINT

2060 PRINT"Please enter the following quantities...":PRINT

2070 INPUT"Desired impedance ";Z

2080 INPUT"Distance from center of wire to ground plane ";H

2090 INPUT"Dielectric constant of substrate ";ER

2100 PRINT:PRINT

2110 D=(4*H)/EXP((Z*ER)/60)

2120 PRINT"Diameter of wire = ";D

2130 PRINT"Velocity factor = ";(1/SQR(ER))*100;"%"

2140 PRINT:PRINT"*****************************************************************
*******"

2150 PRINT

2160 PRINT"Do another? <Y or N>"

2170 A$=INKEY$
```

```
2180 IF A$="" THEN 2170

2190 IF (A$="N") OR (A$="n") THEN 1000 ELSE 2000

2210 PRINT"Program ended normally."

2220 END
```

2540. uuencoded binary - Impedance of Striplines

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: BILLY@urhep.pas.rochester.edu
Message-ID: <1996Apr19.143025.27299@galileo.cc.rochester.edu>
Source record: 105967
Body handling: Inline uuencoded payload not displayed: STRIP.BAS

You should be able to uudecode this file and then run the result
directly under BASICA on your PC.

Again, the formula for the flat strip is fairly exact, but the formula
for the round strip is an aproximation valid only for D<<H.

Enjoy.

-Bill VanRemmen, KA2WFJ
billy@urhep.pas.rochester.edu
URHEP::billy
http://www.pas.rochester.edu/~bill/

My opinions. No one in their right mind would claim otherwise.
==========

It is the doom of men that they forget. -Merlin

==========

[Inline uuencoded payload not displayed: STRIP.BAS]

2541. active noise canceling headsets

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: kpviengin@aol.com
Message-ID: <4l8glr$4fo@newsbf02.news.aol.com>
Source record: 105968

Hi, anyone have any leads on where I could find schematics for subject listed? I know that the aviation community uses them extensively. Thanx!

2542. Re: Questions about SAW devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: Edward Lawrence <eal>
Message-ID: <4l8ga6$l9r@fcnews.fc.hp.com>
Source record: 105969

Other Manufacturers include RF Monolithics, in the Dallas, TX area. Texas Instruments still has SAW people, although I doubt if they manufacture any SAWS.
at least for the commercial outside market. Nokia has or had SAW capability, and they did have an interest in ASCOM, of Bevix, Switzerland, a very few years ago.
If you need a good contact point on SAW design, contact Clinton Hartmann of Hartmann Research, Dallas, TX. Please don't waste his time with trivial requests, but remember that he has a business to run! He formerly was an Amateur Radio Operator, and, as you might guess, I have worked for him in the past. Clinton has been designing SAWs since the 70's.

2543. Re: QST Conflict of interest again.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.829930626.26556.jwicklun@mycroftxxx.halcyon.com>
Source record: 105970

> From: Jay Craswell <73016.27@CompuServe.COM>

> Is there a law against making some money for your
> work? Is QST supposed to be the Peoples Republic of Amateur Radio?
> Yes, I am one of those writers with a vested interest and if I read
> your comments correctly I would fit your conflict of interest. I
> just happen to think we should support US designers and kit
> builders. Not try to trash them for having an interest in paying a
> few bills.
> --
> 73, Jay WB0VNE - AAV5TH
>
Hi Jay, I'm one of those that has complained in the past about the way some articles in QST have been presented. But I have no problem with the author selling parts or kits (I've done it myself). But I do have a problem with presenting a construction article and then keeping part of the critical information (such as the software or pcb layout) confidential and forcing the reader to buy from the author, or redesign the whole thing. Fine, sell parts and kits, but also provide the information to those that might get more satisfaction out of doing their own work. It probably won't hurt sales that much anyway....

73.....KI7RH (Jay)

2544. Need help making 100 watts at 2 GHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: webb@ultranet.com
Message-ID: <webb-1904961256420001@d10.lowell.ma.ultra.net>
Source record: 105971

I would like to find some kind soul who can provide information,
solid-state devices, or surplus gear to help me with a 2 GHz power
amplifier for EME.

Any input is appreciated,

Spencer, WA2BSR

--
-Spencer Webb
webb@ultranet.com

PGP public key available at web page
"http://bs.mit.edu:8001/pks-toplev.html",
or e-mail server "pgp-public-keys@pgp.mit.edu"

Key fingerprint = 42 9A E3 8A 83 15 B4 61 D4 92 4E 96 CB 2F 05 FB

2545. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr19.174946.26042@ke4zv.atl.ga.us>
Source record: 105972

In article <786576622wnr@gbscomms.demon.co.uk> gordy@gbscomms.demon.co.uk writes:
>In article: <1996Apr13.172317.25604@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman)
>writes:
>> Create and use a real silk screen. I know of no better method, and it
>> is not hard to do. If you can make a PC board, you can make a silk screen.
>
>any chance of elaborating the technique or pointing us to a URL Gary?
>I've been paying screen-printers for years, but if I can do it here
>on the bench I'll have much more neer money left over....

Silk screen printing is pretty simple. You take your silk and spread
it tautly on a wooden frame. Coat it with photoresist and expose your
pattern. When you develop the resist, voids will exist where you want
ink to be deposited. After the silk screen has been prepared, press it
firmly against the panel to be printed, apply the ink gell, and roll
it with plenty of pressure with a hard roller. When you lift the screen,
the desired image will be left on the panel.

Think of the silk as like window screen but with a much finer weave, the
resist fills all the voids except where it has been exposed and developed,
so you're left with a pattern of holes through which you press ink.

Silk screen is like using a stencil, but the fineness of the lines
possible is determined by the fineness of the weave of the material,
and the quality of the resist. Printing silk is available in a number
of weaves. The relatively coarser weaves are easier to use since the
ink flows through the weave easier under pressure, but of course the
image fineness suffers. The finer the weave, the finer the image
resolution, but the more pressure required to force the ink through
the weave. You want to choose the appropriate weave for the job at
hand.

You can reuse a given silk screen stencil many times, and if you clean
it well (with ink solvent) between printing sessions, you can use it for
a long time. Using a different solvent, you can remove the resist, and
then you can lay a new image on the silk and reuse on that level too.

Silk screen printing supplies, IE silk, resist, developer, ink gells,
frames, and rollers, are available from many large graphic arts supply
houses. An easy way to find one is to ask your local Tee shirt printer
where he gets his supplies.

There are machines which accept frames and automatically apply ink and
a uniform and adjustable roller pressure for doing volume printing, but
you don't need that to do one-off printing jobs. A bit of experimentation
with hand roller pressure will enable you to achieve good results. But if

you need multi-color printing, then a machine is a good idea so that the registration for the color separations will be correct. Of course you can build this yourself.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2546. Re: Question: Having Circuit boards made: Where?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4l8q69$db5$1@mhafn.production.compuserve.com>
Source record: 105973

I use a place in Canada called Alberta Printed Circuits. BBS is 403 291-9342.
Download the order frms.
$60 + pcb Area * Exchange rate ($.80)=your cost. Turn around IS FAST!!!
Two sided plated through holes but no silk screen or green solder mask.

I use Circad. I'm jaded as I also peddle it but I really think it far an
away the best software for the money. Hams get a discount so it's worth
checking out the demo. The demo does let you do little designs so try
before you buy. Give me a call if you want it or have any questions.
(612) 492-3913
--
73, Jay WB0VNE - AAV5TH

2547. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: jmccarty@sun1307.spd.dsccc.com
Message-ID: <4l93uu$hse@sun001.spd.dsccc.com>
Source record: 105974

In article <4kblq2$rg6@hpcvsnz.cv.hp.com>, Tom Bruhns <tomb@lsid.hp.com> wrote:
)Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
): The former is the gotcha, make sure that you know the
): frequency on which the crystal actually oscillates. It may not be the
): frequency stamped on the case with crystals intended to be used in
): receivers.
)
)Of course, the same is true of crystals stamped with the transmitter
)frequency: the crystal likely will oscillate on a fraction (like 1/9 or
)1/12) of the actual transmitter output frequency; in some cases there is

[rest cut]

Do you know something I don't know? I thought that overtone crystals
only worked on odd harmonics (1,3,5,7,9,11,etc.) and that 5th overtone
was about as high as they go (a few 7th exist, I think). Except when
used with a frequency multiplier circuit. I didn't think that crystals
intended for frequency multiplication were marked with the multiplied
frequency.

Mike
--
----
char *p="char *p=%c%s%c;main(){printf(p,34,p,34);}";main(){printf(p,34,p,34);}

I don't speak for DSC. <- They make me say that.

2548. Re: Cable TV tuner for UHF receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4l982o$17t@cc.iu.net>
Source record: 105975

In article <4ktsmv$402@news.orst.edu>, forrerj@ucs.orst.edu says...
>
>Hi,
>
>I have a couple of Mitsumi Cable TV tuners and was wondering whether they
>were worth using as the basis for a UHF receiver.
>
>These have several bands that is selectable by applying 5V logic to a
>selected pin - the range that I'm interested in, tunes from 190 - 450 MHz
>- the VCO tuning for this range corresponds to 0 - 20V. Output IF
>frequency is 45 MHz.
>
>In general, if I'm interested only in the 70 CM ham band, would these
>units be worth considering as as starting point?
>
>Comments or suggestions would be appreciated.
>
>Thanks,
>
>--Johan Forrer, KC7WW
>
>
>

If you are comfortable designing phase locked loops, they seem
like a reasonable way to go. You just won't get the stability
required for any sort of narrowband work without making a PLL,
though. (Maybe you could make some sort of AFC scheme work if
you were using it for FM or TV, but that's not possible for SSB
or CW.)

I've thought about doing this myself, but haven't gotten a round
to it. I even have a junked TV receiver someone gave me for this.

So many projects, so little time.

73,

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

2549. CTCSS tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: Andrew Zimmerman <andrewz@leba.net>
Message-ID: <Pine.BSI.3.91.960419213917.1980A-100000@fig.leba.net>
Source record: 105976

Does anyone know how to make a simple CTCSS tone generator to connect to the audio input line of a 2M crystal rig? Is there a chip to generate these tones? Thank you.

Andrew

---
andrewz@leba.net Compu$erve 73307,2755 Amateur Radio AA3AK

2550. FM Band Code Practice XMITTER- Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.119.0F4E3003@mindspring.com>
Source record: 105977

Hello, I am a Tech-Plus and I am interested in getting a general class
license.
There are others where I work that are working towards their 5WPM.
Also, several Advanced and Extra's willing to help.

What I am looking for is a way to use Part-15 xmitters on the FM band,
with Audio CW so that we can form a "Lunchtime Net"

My first attempt was to AM modulate a 3.58MHz crystal divided by
four, giving about 1 MW on 890KHz AM Band. This worked _really_ well
here at the house with a range of about 200ft to a portable AM receiver.
At work, however, due to building construction and computer noise,
I get a maximum range of about 12-15 feet. (someone said that the
metal floor and the metal ceiling were too close together to allow
propagation at such a low frequency! These same people say that FM
will have no problem filling the area!)

I am trying to design a small transmitter with these important
characteristics:
1. CHEAP -- I would like to see about 10 of these around work.
2. EASY TO BUILD -- I am hoping to build mine myself, and hope
that the (electronically aware) novices-to-be could build
their own.
3. Crystal control -- and I would hope to use a cheap uP crystal
for frequency control. This would keep all the transmitters
on a single frequency and eliminate off-frequency operation.
4. FM Modulation at about 500Hz-1KHz for audio code.
5. Low Power- part 15 type equipment.
6. 88-108 MHz operation so that standard FM radio could be used
as the "desk top" receiver.

One good thing, our building is fairly well shielded against external
RF, and located in an industrial park, so radiation outside the building
from an improperly adjusted set would not likely be a problem.

I considered the cheap "FM Wirelsee Mike + Audio Oscillator" but the ones
I have seen are completely unstable.
I had thought of using 32MHz canned oscillators, and selecting the
3rd harmonic at 96MHz, but how do I FM Modulate it?

Any info/help would be appreciated.
Thanks,
Ed Ganger KB4ORA

2551. 8877 (3CX1500A7)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-19 00:00:00 UTC
From: Eric Howell <erhowell@avana.net>
Message-ID: <31786F1C.6A6C@avana.net>
Source record: 105978

For you serious home brewers (up to 250Mhz)

I have a few EIMAC 8877 (3CX1500) tubes available. They are pulls and
have been tested good....

If you are interested, drop me a line.

Eric - WB8VTK/4
erhowell@avana.net

2552. wtb 8560as TUBES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: rfburns <doogie@pop.fast.net>
Message-ID: <4l9boq$1su@nn.fast.net>
Source record: 105830

ANYDODY GOT LET ME KNOW
DOUG

2553. FS 6GE5 GE NOS tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: murrayl@cs.hope.edu
Message-ID: <4l9ie6$dtk@news.cs.hope.edu>
Source record: 105831

```
NOS GE 6GE5 tubes $5 + shipping
Murray K3FD
MurrayL@macatawa.org

--
MurrayL@macatawa.org
```

2554. WTB:Amp/detector for HP8444 tracking gen or junker

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: ehaskell@airmail.net
Message-ID: <31786af6.745790687@news.iadfw.net>
Source record: 105832

ehaskell@airmail.net

2555. NEED Travelling Wave Tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: angel vilaseca <100604.1242@CompuServe.COM>
Message-ID: <4la821$do3$2@mhafc.production.compuserve.com>
Source record: 105833
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.space,rec.radio.swap

I am building a 10 GHz EME station and I am looking for a 20
Watts or more Travelling Wave Tube amplifier.

2556. Re: New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <Dq5otM.Myz@cix.compulink.co.uk>
Source record: 105834

speaking of tubes, what is the optimum frequency range for the 807?

2557. Re: Need help making 100 watts at 2 GHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <Dq5otn.MzK@cix.compulink.co.uk>
Source record: 105835

Perhaps a Microwave oven, 2.3cm? can't remember...

2558. Aviation Converter for Automobile ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: mrpeters@atnet.net
Message-ID: <4la2ge$18a@news.atnet.net>
Source record: 105836

About ten years ago I purchased a self-powered converter which picked up
aviation band signals and ran them through my car stereo. You unplugged
the car antenna into the unit, which was about the size of a cigarette pack.
The unit had a shortwave converter which sent the aviation band into
the AM radio around station 1400 or so. It was manufactured by a fellow
in the midwest, but he died (Western Radio of Kearney, NE) and the stock
disappeared. I lost my unit when the car stereo was stolen.
Does anyone know of plans/kits for such a unit. It couldn't have been
that hard to do... cost was around $30 in 1984.

2559. Re: Need help making 100 watts at 2 GHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: cunliffe@frontiernet.net
Message-ID: <4lb31b$ft0@cheatum.frontiernet.net>
Source record: 105837

oddjob@cix.compulink.co.uk ("Stephen Walters") wrote:

>Perhaps a Microwave oven, 2.3cm? can't remember...

Buy a TWT amplifier from Amplifier Resarch 10mW in 200w out 2-8GHz

John R. Cunliffe N2NEP
cunliffe@frontiernet.net
http://www.frontiernet.net/~cunliffe

2560. Re: Questions about SAW devices

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: Jerry Robinson <JerryRobinson@worldnet.att.net>
Message-ID: <4lb7c6$sr2@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105838

Another vendor you may try is:

RF Monolythics Inc.
4441 Sigma Road
Dallas, Texas 75244
(214) 233-2903

They produce single and dual port SAW resonators, SAW filter, and delay lines. Good choices of frequenies in the 300MHz range.

Good luck

JHR

2561. Some info needed - components...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: py3crx@sp-gw.py2bjo.ampr.ORG
Message-ID: <9514@SP-gw.ampr.org>
Source record: 105839

Hi all:

As a newcomer, just sending this to let U know abt. some activities
I'm involved here:
- 10.25GHz Gunplexers running video, WBFM and CW.
- TVRO and MMDS Donconverters conversions:
Intelsat K LNB to 10.25GHz(running)
PLL freq. stabilization at the same LNB(almost ready)
- C-Band CalAmp "Digiready" LNBs conversion to 3.45GHz(running)
- C-Band CalAmp "Digiready" LNB L.O. conversion to 5.7GHz Amateur band.
- C-Band CalAmp "Digiready" LNB L.O. plus freq. dblr/amp to 10.25GHz.
- Several CalAmp MMDS Downconverters conversions to 2.3GHz...2.4GHz
input, 440MHz output(runing, LNA under construction)
1.691GHz to 440MHz and 137.5MHz(Goes and Meteosat)(running)
- ATV at 1.2 and 2.4GHz using CATV modulators / upconverters(at the
bench)
- Running 3.2 meter and 1.2 meter dishes from 1296 to 10.25GHz
- Some tests with small loops antennas(HF subj, sorry)
I would like to exchange Info on such equipment mods, component
specification (inside this items - fets, bipolars, gasfets, MMIC),
celullar phone power moduler for re-use at 902>928, and so on.
Im placed at Sao Paulo, Brazil(GG66QJ) and planning some beacons
from 1.2 to 10GHz, .5W (CW, maximum, unknown ERP yet).

ACTUALLY, LOOKING FOR ANY INFO AT:

- CELLULAR PHONE PWR MODULE, LABELED FMC080802-20
- 2SC1251, A NEC TRANSISTOR, SUPOSE TO BE A CLASS A UHF DRIVER
- IF THERE IS ANY CODE TO SMD TRANSISTOR AND DIODES/MIXERS SIMILLAR
TO THE WE USE TO SMD (CAPACITORR AND RESISTORS).
- ANY SOURCE FOR SAW-FILTERS, 455KHZ OR 10.7MHZ, 40khz BW(NOAA/GOES/
METEOSAT DEVIATION).
- HRPT INFORMATION/SOFTWARE SOURCES.
- PATCH ANTENNAS THEORY (AND THEIRS YAGI-LIKE ASSEMBLY)

THANKS IN ADVANCE!

73 - Marcus Ramos - PY3CRX@SP-GW.AMPR.ORG

2562. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4lbeqr$i7e@crash.microserve.net>
Source record: 105840

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

>Silk screen printing is pretty simple. You take your silk and spread
>it tautly on a wooden frame. Coat it with photoresist and expose your
>pattern.

Gary, thanks for posting this. My only silkscreen experience was about twenty years ago when I printed my own QSL cards. I didn't realize photoresist could be applied directly to the silk. Neat.

>But if you need multi-color printing, then a machine is a good idea
>so that the registration for the color separations will be correct.
>Of course you can build this yourself.

I'm not familiar with the machine that you mentioned, but it should be possible to build an outer, hinged framework that holds the individually-framed screens. If the outer frame is clamped to the work and the frame and hinges are sturdy, I would expect registration to be very good. A full-length piano hinge or a pair of high quality self-retracting cabinet hinges would probably work well for this.

It's just an idea, but to keep the individual screens from moving around within the outer frame while the ink is being applied, dowels could be installed in the inside surfaces of the outer frame. If matching grooves were cut in the silkscreen frames, that would keep them centered in the outer frame, even if the fit between the frames isn't perfect. Also, if registration of multiple colors will be necessary, it would probably be best to cut all the wood for the inner frames at the same time. That way, the frames that make up a "set" will be more nearly idenical.

73,
Jack WB3U

2563. Re: Cable TV tuner for UHF receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: norman@pagesat.net
Message-ID: <4lbc56$sbv@jolt.pagesat.net>
Source record: 105841

BTW I beleive this is one reason you don't see inexpensive digital
top of the set convertors.

Norman
--

Check out the Pagesat netnews feed via satellite. 115Kbps
speed. Over 700 megs a day from over 150,000 non-duped
messages from over 16,000 groups. info@pagesat.net

2564. WTD: Saber Programming Cable Pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: coath@ux7.cso.uiuc.edu
Message-ID: <4lbhgn$l5u@vixen.cso.uiuc.edu>
Source record: 105842

I'm looking for the pinout for the programming cable of a Motorola Saber. I'm trying to convert a dead public saftey mike into a programming cable (radio to RIB). Any information would be _greatly_ appreciated. Thanks!

-Jason
coath@uiuc.edu

2565. Old porcelain insulatorsFS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: DMedley@gnn.com
Message-ID: <4lbtci$h6k@news-e2d.gnn.com>
Source record: 105843

I have a box of a variety of porcelain goodies from way back. This includes spreaders for zepp type antennas, standoffs and coil forms. If you would like a list e-mail me at DMedley@gnn.com

David Medley

2566. MICROSTRIP LINES - what are they and who sells them

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-20 00:00:00 UTC
From: litehaus@ix.netcom.com
Message-ID: <4lb8cg$t18@dfw-ixnews7.ix.netcom.com>
Source record: 105844

Hi fellow dxer's

Got my novice when I was 13...god awful bunch of years ago.

Recently I've been looking thru some broadband RF amplifier schematics trying to select one for a cable TV design project I received here at my work.

I notice that many of these have a "componet" shown in the circuit as a "microstrip" or "microstrip line." The parts list simply lists them as "Z1 = 0.31 x 0.15 microstrip."

What are these devices and who makes them? Even more important, who sells them?

Can anyone help me with this....please?

THANKS!!

Rich Potter
<litehaus@ix.netcom.com>

BTW..I'm wanting to build a 100 Mhz to 1.4 Ghz broadband amp. Any favorite circuits that worked out as a good experience for you that you's like to share...or even a suggestion as to which type of amp worked well. I've been reviewing (studying) about 10 different types of amp circuits. I don't need a super flat response..the 1+ Ghz is to be ready for the changes to cable tv that are comming in the near future (interactive games, banking, etc, even the Internet).

Thanks again!

2567. RFI from linear amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: Doug Brede <Davis.Brede.Tipton@worldnet.att.net>
Message-ID: <4lc05i$bl1@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105845

I've got a homebrew linear using a pair of 3-500Z tubes. Lately I've noticed some RFI being generated from it -- a S2 hiss across the bands above 40 meters. This hiss occurs on receive only when the high voltage is on, making me think that it is a diode in the HV supply.

Does anyone know a way to spot the offending diode without replacing the whole bunch? I don't really want to poke around in a 4 kv supply when it's on. Ideas?

Doug W3AS

2568. Re: RFI: Eico 710 Dipper Coils?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4lc9k6$g0d@hg.oro.net>
Source record: 105846

tomb@lsid.hp.com (Tom Bruhns) shared the following priceless pearls of wisdom:

>Watts (galen@lamar.ColoState.EDU) wrote:
>: Hello, I have obtained an Eico model 710 Grid Dip Meter, covering
>: 0.4 to 250 MHz, but no coils.

I've got an old 710 that I don't want to get rid of, but I do have the manual and the coils. If you can work out a foolproof system for me to insure getting the stuff back, you are welcome to borrow them for a month or so.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic

2569. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr21.064937.4002@ke4zv.atl.ga.us>
Source record: 105847

In article <4l93uu$hse@sun001.spd.dsccc.com> jmccarty@sun1307.spd.dsccc.com (Mike McCarty) writes:
>In article <4kblq2$rg6@hpcvsnz.cv.hp.com>, Tom Bruhns <tomb@lsid.hp.com> wrote:
>)Gary Coffman (gary@ke4zv.atl.ga.us) wrote:
>): The former is the gotcha, make sure that you know the
>): frequency on which the crystal actually oscillates. It may not be the
>): frequency stamped on the case with crystals intended to be used in
>): receivers.
>)
>)Of course, the same is true of crystals stamped with the transmitter
>)frequency: the crystal likely will oscillate on a fraction (like 1/9 or
>)1/12) of the actual transmitter output frequency; in some cases there is
>
>[rest cut]
>
>Do you know something I don't know? I thought that overtone crystals
>only worked on odd harmonics (1,3,5,7,9,11,etc.) and that 5th overtone
>was about as high as they go (a few 7th exist, I think). Except when
>used with a frequency multiplier circuit. I didn't think that crystals
>intended for frequency multiplication were marked with the multiplied
>frequency.
>
>Mike

Yeah they often are, in fact it's almost standard practice. When
I order a 145.01 MHz channel element for a Micor, that's what's
going to be stamped on it, even though that's not the frequency
at which the crystal oscillates.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2570. ADMS-1B Webpage wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: darryl.linkow@grinder.com
Message-ID: <8BF1039.01A70009A8.uuout@grinder.com>
Source record: 105848

Hello all and thanks for reading this. A couple of weeks ago
someone posted the Web Page for downloading the patch files for the
latest version of the Yaesu ADMS-1B software. If you know that
Website, please Email me or leave message here.
73, Darryl KE6IHA

darryl.linkow@grinder.com

---
* OLX 2.2 * Darryl Linkow (818)346-5278 9 am - 5 pm PDT

2571. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: rlong@magnus.acs.ohio-state.edu
Message-ID: <rlong-2104960842210001@ts23-13.homenet.ohio-state.edu>
Source record: 105849

In article <786576622wnr@gbscomms.demon.co.uk>, gordy@gbscomms.demon.co.uk wrote:

> In article: <1996Apr13.172317.25604@ke4zv.atl.ga.us> gary@ke4zv.atl.ga.us (Gary Coffman)
> writes:
>
> > >I would very much appreciate any advice on how to create silk-screen-like
> > >panels.
> >
I use the following. I create the panel in a PC drawing program (CorelDraw, e.g.) using colors as appropriate, including the desired overall background color. I then take the disk to Kinkos and print it on one of their professional quality laser printers ($1.99 per page - and for many projects you can have 2 or more copies on that page). If there is a window, like for an LCD, I cut it out with a knife. Finally I have Kindo laminate the page. You ask for roll laminating, and the thinnest material, 2 mils I think. They have two thicknesses. Finally I spray the panel (not the laminate) with a shot of spray adhesive, available at hobby stores, and place the overlay. It works great, looks good, and is almost indestructible.
Ron, w8gus.

2572. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.120.000E6331@mindspring.com>
Source record: 105850

In article <rlong-2104960842210001@ts23-13.homenet.ohio-state.edu>
rlong@magnus.acs.ohio-state.edu (Ron Long) writes:
>I use the following. I create the panel in a PC drawing program
>(CorelDraw, e.g.) using colors as appropriate, including the desired
>overall background color. I then take the disk to Kinkos and print it on
>one of their professional quality laser printers ($1.99 per page - and for
>many projects you can have
>2 or more copies on that page). If there is a window, like for an LCD, I
>cut it out with a knife. Finally I have Kindo laminate the page. You ask
>for roll laminating, and the thinnest material, 2 mils I think. They have
>two thicknesses. Finally I spray the panel (not the laminate) with a shot
>of spray adhesive, available at hobby stores, and place the overlay. It
>works great, looks good, and is almost indestructible.
>Ron, w8gus.

Even easier, if you want to mess around ....

I reverse the bitmap before I print to a BW Laser printer on overhead
film. This puts the markings on the BACK of the acetate(? mylar?)
sheet. Then I mix up some clear epoxy and with a plastic spreader
I smear it all over the sheet and stick it on. With a little trouble,
bubbles are eliminated. After about 2 minutes (when the epoxy is gummy)
clean up with denatured alcohol.

Also, BONDO (car fixit goop) can be spread over the panel and the
plastic sheet set into it. I never tried spray adhesive, but it should
work. The advantage of BONDO is that it is a neutral grey and gives a
good background.

The big trick is to print MIRROR IMAGE of your panel onto the BACK of
your clear sheet. This eliminates any laminating step.

By the way --- It is important to use the ACTUAL PRINTER that you intend
to do your finish work on and make a "calibration sheet." Many printers
are not quite 1:1 and if your panel is 5% off, all sorts of things do not
line up well. (Most printers are within about 2-4% uncalibrated)
Regards,
Ed

2573. Re: MICROSTRIP LINES - what are they and who sells them

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.121.0015F7CE@mindspring.com>
Source record: 105851

In article <4lb8cg$t18@dfw-ixnews7.ix.netcom.com> litehaus@ix.netcom.com(Richard Potter) writes:

>What are these devices and who makes them? Even more important, who
>sells them?

A micro-stripline is actually a PC Board trace cut to exacting dimensions over a ground plane on DoubleSided PC board.

It is important when making them to match the thickness and type (ie, Glass-epoxy, teflon, etc) of the PC board stock used in the article.

At VHF and up, this looks like a transmission line of some respectable portion of a wavelength (the length of the strip) at some characteristic impedance (the width of the strip). The shape, orientation, and termination of the line make it appear to be a fairly good L, C, or resonator at the frequency of interest. Some intrepid souls even make matching transformers this way.

There are computer programs to help design these things, and they are pretty much necessary. I have seen some RF guys just "seat of the pants" these things, and though they eventually get them working, it usually involves a lot of time with Xacto knives and copper foil.

Hope that this was helpful.

Regards,
Ed KB4ORA

2574. Re: Question about Motorola RF Transitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: lenny+@pitt.edu
Message-ID: <4le1qk$56v@usenet.srv.cis.pitt.edu>
Source record: 105852
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components,rec.radio.amateur.misc

sorry for the crossposting but I REALLY need help with this.

Ok I've just blown the SD1272 that is in the Ramsey PA-1 Kit. Now of course I'd like to replace it. I've heard that the Motorola MRF-239 can be used as a direct replacement of it but I'd like to know if there are any other MRF transistors that will give a higher output power. So if any of you have the Motorola RF Transistor book, I'd very much apperciate the specs on the MRF-239 and whatever other transistors I can use in the PA-1. thanks in advance

joe

2575. Re: July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: schneide@wrcs1.urz.uni-wuppertal.DE
Message-ID: <4le26g$c0s@wmwap1.math.uni-wuppertal.de>
Source record: 105853

Hi, i didn't even get my December QEX.

--
Robert Schneider 0202/4392244
schneide@wrds1.urz.uni-wuppertal.de

2576. Re: MICROSTRIP LINES - what are they and who sells them

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9603218301.AA830122539@mail.creo.bc.ca>
Source record: 105854

Richard Potter asks:

> I notice that many of these have a "component" shown in the circuit
> as a "microstrip" or "microstrip line." The parts list simply lists
> them as "Z1 = 0.31 x 0.15 microstrip."

> What are these devices and who makes them? Even more important, who
> sells them?

You make them when you etch the pc board! Microstrip lines are distributed components, somewhat analogous to taking a piece of coaxial cable, slitting it along one edge and unrolling it flat, so you have a conductor floating over a groundplane, separated by dielectric. By varying the size of the line you control the impedance, and can make components that exhibit inductive or capacitive reactance at the desired frequency.

See, among other references, the ARRL or RSGB Microwave Handbooks for further details.

> BTW..I'm wanting to build a 100 Mhz to 1.4 Ghz broadband amp. Any
> favorite circuits that worked out as a good experience for you that
> you's like to share...or even a suggestion as to which type of amp
> worked well.

I recently built a broadband amplifier as the IF preamp for a 10 GHz WBFM rig, using a MAR-6 MMIC driving a MAR-3, with 1 nF chip coupling capacitors between them. I followed WB5LUA's suggestion of running them off an 8 volt bus (with the help of a 7808 voltage regulator) to make the power supply that much stiffer and more resistant to dying batteries. I laid out the microstrip (such as it is :-) with scotch tape and a straightedge, and drew in the DC stuff with one of the (in)famous Sharpie pens. It works fine.

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

2577. Re: QST Conflict of interest again.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: Mike James <msj@pop.best.com>
Message-ID: <317AD33F.405D@pop.best.com>
Source record: 105855

Jay Craswell wrote:
>
> I know I should not wade in on this but "conflict of interest?" ....

What's the point of raising all this again, especially here in the
"homebrew" newsgroup?

Mike James
KE0CH

2578. Homebrew TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: Zack Clobes <zclobes@southwind.net>
Message-ID: <317AF209.65B1@southwind.net>
Source record: 105856

I'm looking for schematics for a simple TNC interface. I'm looking for something that could use the computer for the modulation and just use the interface to connect to the radio simular to the JFAX software.. Any help would be appriciated. Thanks in advance.
73's de Zack, AA0XQ

2579. CTCSS tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: Chris.Boone@106-4267.woodybbs.com
Message-ID: <561_9604212217@woodybbs.com>
Source record: 105857

5*** Quoting Andrew Zimmerman to All dated 04-19-96 ***
> From: Andrew Zimmerman <andrewz@leba.net>
> Subject: CTCSS tone generator
> Organization: LebaNet
>
> Does anyone know how to make a simple CTCSS tone generator to connect
> to
> the audio input line of a 2M crystal rig? Is there a chip to generate
> these tones? Thank you.
>
> Andrew
>
>
> ---
> andrewz@leba.net Compu$erve 73307,2755 Amateur Radio AA3AK
>
Call Communications Specilaist at 800-854-0547 and order their SS-32 encoder..

Cost $28.95 and does everything you need...

73
Chris
WB5ITT
--
|Fidonet: Chris Boone 1:106/4267
|Internet: Chris.Boone@106-4267.woodybbs.com
|
| Standard disclaimer: The views of this user are strictly his own.

2580. Re: RFI from linear amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <317AAC22.7B98@vcd.hp.com>
Source record: 105858

Doug Brede wrote:
>
> I've got a homebrew linear using a pair of 3-500Z tubes. Lately I've
> noticed some RFI being generated from it -- a S2 hiss across the bands
> above 40 meters. This hiss occurs on receive only when the high voltage
> is on, making me think that it is a diode in the HV supply.
>
> Does anyone know a way to spot the offending diode without replacing the
> whole bunch? I don't really want to poke around in a 4 kv supply when
> it's on. Ideas?
>
> Doug W3AS

Hi Doug,

Make sure that the 3-500's are fully CUT OFF during receive (ie,
drawing NO plate current). Idle plate currant can make a nice wideband
noise generator (this is the basis of one kind of noise generator in
fact).
73, GL
Don, W6JL

2581. BC-348 parts wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: "Carl P. Gottsmann" <kn6al@ecst.csuchico.edu>
Message-ID: <Pine.HPP.3.92.960421234123.24031B-100000@steroid.ecst.csuchico.edu>
Source record: 105859

Greetings all,

I'm in need of 3 of the round knobs used on the BC-348 front

panel. I'm also in need of a dataplate for a BC-348 "R" or "Q". If

any of you have a parts rig -348 around I would vy much appreciate

making a deal for the above parts. Pse e-mail me!

Tnx, and 73

Carl Gottsmann, KN6AL +

2582. Need info: So Cal surplus/electronics/ham shops

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDq7tpu.D44@netcom.com>
Source record: 105860

Business will start taking me to so cal this year, and I'd like to take the opportunity to visit good surplus-electronics-ham type shops. I used to live in the LA area about 15 years ago, but I've forgotten my favorite haunts. Any referrals would be gratefully appreciated!

73 Dave WB0GAZ dgf@netcom.com

2583. Vic D. ex of Screamin' Black Cadillacs -- read this

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: jonny@vaxxine.com
Message-ID: <jonny.19.0015FA61@vaxxine.com>
Source record: 105861

Hey Vic,
How's dentist college?!? I thought that I'd be able to catch you on one
of these news groups! Paul W told me that you'd stopped playing your upright
-- the neck had cracked. Could you ever dare to part with it? By the way,
its me Jonny from St. Kitts. e-mail is jonny@vaxxine.com

2584. Need help making 100 watts at 2 GHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: wb5rue@amsat.ORG
Message-ID: <01I3U4QYDEWE001T08@ARWEN.UTHSCSA.EDU>
Source record: 105862

webb@ultranet.com (Spencer Web) writes:
>I would like to find some kind soul who can provide information,
>solid-state devices, or surplus gear to help me with a 2 GHz power
>amplifier for EME.
>
>Any input is appreciated,
>
>Spencer, WA2BSR
>
>--
>-Spencer Webb
>webb@ultranet.com

Actually Spencer, you don't need 100 watts. All you need
is a good antenna and about 25 watts. I am experimenting
with EME now on 2GHz and am able to hear my echoes using
25 watts and a surplus 13 foot wire mesh satellite dish
antenna. You can get these antennas for a couple of hundred
dollars.

Kevin, WB5RUE
wb5rue@amsat.org
muenzlerk@uthscsa.edu

2585. Solar?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: dennis_penn@fullcoll.edu
Message-ID: <4lel1q$osm@doc.zippo.com>
Source record: 105863

Are there and WEB sites, or News groups that specialize in Solar
and other Off-Line energy uses.
Dennis
KA6VKP
dennis_penn@fullcoll.edu

2586. Re: WEFAX/RTTY interface....

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: "Steve Harison"
Message-ID: <4lf56h$77o@doc.zippo.com>
Source record: 105864

In article , eggsmstr@pop3.cris.com says...
>
>Good afternoon all,
>
> I am currently looking to purchase (not construct) an interface for running HAMCOM or JVFAX
>If anyone has one lying around the SHACK and would wish to part with it, please let
>me know.....
>
>73'S
>
>JEFF
Don't buy an A & A model - I have had nothing but trouble with it.
I may be a teacher, but I still nead to learn.

2587. FM Band Code Practice XMITTER- Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-21 00:00:00 UTC
From: Chris.Boone@106-4267.woodybbs.com
Message-ID: <577_9604230641@woodybbs.com>
Source record: 105865

5*** Quoting Ed Ganger to All dated 04-19-96 ***
> What I am looking for is a way to use Part-15 xmitters on the FM band,
> with Audio CW so that we can form a "Lunchtime Net"
>
> My first attempt was to AM modulate a 3.58MHz crystal divided by
> four, giving about 1 MW on 890KHz AM Band. This worked _really_ well
> here at the house with a range of about 200ft to a portable AM
> receiver.
> At work, however, due to building construction and computer noise,
> I get a maximum range of about 12-15 feet. (someone said that the
> metal floor and the metal ceiling were too close together to allow
> propagation at such a low frequency! These same people say that FM
> will have no problem filling the area!)
>
> I am trying to design a small transmitter with these important
> characteristics:
> 1. CHEAP -- I would like to see about 10 of these around work.
> 2. EASY TO BUILD -- I am hoping to build mine myself, and hope
> that the (electronically aware) novices-to-be could build
> their own.
> 3. Crystal control -- and I would hope to use a cheap uP crystal
> for frequency control. This would keep all the transmitters
> on a single frequency and eliminate off-frequency operation.
> 4. FM Modulation at about 500Hz-1KHz for audio code.
> 5. Low Power- part 15 type equipment.
> 6. 88-108 MHz operation so that standard FM radio could be used
> as the "desk top" receiver.
Well Ramsey makes a FM xmtr for about 29 bucks...not xtalled controlled but at
FM BC freqs, you really dont need to worry too much....

You will have to inject a 1Khz toneinto the TX audio line inputs....
You could use the AC wiring as the antenna (using caps of say .01 or .01 in
series with the AC lead to the antenna out on the TX...I did that once with an
old RS FM mic and it covered the neighborhood)....once it hits a xfmr it wont
be going anywhere!

73
Chris
WB5ITT

GL on the upgrade!

--
|Fidonet: Chris Boone 1:106/4267
|Internet: Chris.Boone@106-4267.woodybbs.com

|
| Standard disclaimer: The views of this user are strictly his own.

2588. Interfacing Knwd TV-502 2M xverter to TS-850?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: "Bruce R. Sawtelle" <bruces@isd.tandem.com>
Message-ID: <4leiee$a46@news.mpd.tandem.com>
Source record: 105866

I recently purchased a Kenwood TV-502 2M Transverter that I'm trying to modify (hopefully slightly!!) to use with a TS-850 HF rig. It looks like the -100V Sgreen Grid bias and the ALC signals are the ones I need to focus on, since the 850 is solid state vs. the TS-520/820 which the TV-502 was made for.

Any inputs on this would be appreciated!

73 & thanks

Bruce W3NJ

2589. RF software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: maxf@msn.com
Message-ID: <00001fee+00001797@msn.com>
Source record: 105867

Sorry This is the correct URL...
cut and paste it.

located at--> http://users.aol.com/maxfro/private/tunekit2.html

TuneKit for Windows

Filter Tuning Kit for Windows is a Electronic Filter Synthesis
program and a practical filter tuning aid for actually designing
and building a working filter. TuneKit is a small window module
with some powerful features that include;

1.) Chebyshev Lowpass and Highpass Filter Synthesis from 2 to 25
poles.

2.) Narrow bandpass Chebyshev Inductive or Capacitive Coupled Filters
from 2 to 8 poles.

3.) Bridged-T Notch Filters, provides rejection of 60dB or more with
practical values of inductor Q, using only 4 components.

4.) The Filter Data will be saved in ARRL Radio Designer 1.0 format
for instant Analysis of your design. TuneKit was designed to be
used as a front end for ARRL Radio Designer, There is a Stay on
Top Option button for repetitive filter designing while using ARRL.
(So, now you can Design and Analysis in seconds.)

5.) Calculates Air Core Coil Windings for a desired Inductance.

6.) Find the Actual Values of Inductors or Capacitors to use in your
filter's tank circuits, using the Resonant Frequency Calculator
and then save the values in the tunekit.ini file for instant recall.

7.) Fast access to the Window's Calculator, so you don't have to hunt
around your desktop. Opens as many as you want.

8.) Help Status Bar for On Line help of any Control in the Module.
Just press and hold and the status bar reveals the function.

That's most of the features in this version, future versions will
include Cauer Elliptical, Bessel, Linear Phase, Gaussian, Microstrip
Combline, Cavity Tuned, Interdigital, and etc. in module form.
Hope you find TuneKit useful as part of your Filter Tool Kit.

located at--> http://users.aol.com/maxfro/private/

2590. Selling VT-4-C transmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: airwick@merlin.nando.net
Message-ID: <4leu4v$k8d@castle.nando.net>
Source record: 105868

I have two brand-new VT-4-C transmitting tubes. Interested? email me.
AIRWICK

2591. new version of ezkitapp for the Macintosh available

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: Gerrit Polder <G.Polder@cpro.dlo.nl>
Message-ID: <317B2628.4978@cpro.dlo.nl>
Source record: 105869
Cross-posted to: comp.dsp,rec.radio.amateur.homebrew

A new version of ezkitapp for the mac is available.

Ezkitapp is the Macintosh version of ezkitapp, the EZ-KIT Lite Host
Program. With this program you can communicate with and upload programs
to
the EZ-KIT Lite from Analog Devices.

version 1.1 - April 1996:
- added upload/download of data/program memory files
- added graphics memory map display
- added demo commands
- changed status window (looks better now)

it can be found at info-mac and it's mirrors:

[Archived as /info-mac/app/ez-kit-lite-11.hqx; 148K]

or in the macintosh hamradio archive:

file://oak.oakland.edu/pub/hamradio/mac/digital/ezkitapp_1.1.hqx

Gerrit.
g.polder@cpro.dlo.nl

2592. Converting Uniden AM/SSB CB Pro 810E to 10meters????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: pef@sni.dk
Message-ID: <4lfob9$h5k@news.dknet.dk>
Source record: 105870

I have this rig in pristine condition. It is useless to me as it is, now
that I have moved to Denmark (CB is FM exclusively here)

I would like to convert it to 10 meter/28 MHz amateur band use, if
possible.

Has anyone tried this???

Schematics for the rig/mod anyone????

Regards

Peter
****
Peter Frenning, UNIX Product Mgr., Siemens-Nixdorf DK, Ph.: +45 4477 4924
Snailmail: Dybendalsvaenget 3, 2630 Taastrup, Denmark, Fax: +45 4477 4977
Email: pef@sni.dk(...!dkuug!sni.dk!pef)(NERV: pfrenning.cph)
X400:C=DK; A=400NET; P=SCN; O=SNI; S=Frenning; G=Peter; OU1=CPH1; OU2=CC
Private connection: Peter_Frenning@online.pol.dk
************ Come visit us on the web; URL http://www.sni.dk *****************

2593. Computer Control For Your Rig !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <4lg2c6$15c2@tetsuo.communique.net>
Source record: 105871

If you are thinking about using you PC to control
you ham rig check out my page and the FT-736R CAT
section. The unit shown is usable on all rigs that
require a RS-232 to TTL level converter to control
the rig. Kits include all connectors needed for
connection to Kenwood, Yaesu or Icom rigs and as
well as others.

Check it out ...

http://www.gcr1.com/n5gpi/

73,
N5GPI

2594. Re: Need info: So Cal surplus/electronics/ham shops

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: jamest@netcom.com
Message-ID: <jamestDq8qtw.E78@netcom.com>
Source record: 105872

David Feldman (dgf@netcom.com) wrote:
: Business will start taking me to so cal this year, and I'd like to take
: the opportunity to visit good surplus-electronics-ham type shops. I used
: to live in the LA area about 15 years ago, but I've forgotten my favorite
: haunts. Any referrals would be gratefully appreciated!

: 73 Dave WB0GAZ dgf@netcom.com

Hopefully this thread will go somewhere! I'd like to find more surplus
electronic ham places as well.

1. The last sat of every month there is the TRW ham swap meet. I think its
the corner of Marine and Aviation in Redondo Beach. All kinds of
stuff for sale.

2. For surplus, try C&H surplus on Colorado Blvd in Pasadena.

3. For (new) ham stuff there's Jun's in Culver City, or HRO in Anaheim.

Anyone else have good "secret" spots they'd like to let us in on ? :)

Later,

James KB6NYG

--
jamest@netcom.com

2595. Re: QST Conflict of interest again.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: rtw@fuwutai.att.com
Message-ID: <4lg6u0$232@nntpa.cb.att.com>
Source record: 105873

In article <4l5tbt$16b$1@mhadf.production.compuserve.com>,
73016.27@CompuServe.COM says...
>
>I know I should not wade in on this but "conflict of interest?" I think it
>is pretty clear that readers of an article know that the author has some
>vested interest. Right? Now if he offers a kit from his article is this
>a conflict of interest? Is there a law against making some money for your
>work? Is QST supposed to be the Peoples Republic of Amateur Radio?
>Yes, I am one of those writers with a vested interest and if I read your
>comments correctly I would fit your conflict of interest. I just happen to
>think we should support US designers and kit builders. Not try to trash
them
>for having an interest in paying a few bills.
>--
>73, Jay WB0VNE - AAV5TH

No, there is no "law" against it, but I pay good money for QST and other magazines. Instead of the author of the article having to pay for advertising space, their advertisement is presented as a technical article and the author either gets free advertising or actually gets paid to advertise! Instead of having to pay for promotion of their product, which would keep the cost of the magazine down, improve its quality, and allow for more editorial pages, the folks like me who subscribe to it are subsidizing this person's business.

In the case of most of the construction projects it is obvious that the authors are not going to get rich from it, and they have done a nice job of arranging the hard-to-get items in a reasonably priced kit. This benefits the readers, the readers benefit from the neat project, advancement of technical knowledge, etc. I have now problem with this, especially if the kit is offered in a paid ad in following issues.

The historical tube article was an out and out advertisement paid for by you and me. I see this all the time in trade publications I receive, but in that case I am not paying for them. When I pay for a magazine I expect the advertisers to pay too.

Rob WB8WQA

2596. Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: flegler@pilot.msu.edu
Message-ID: <4lg7bv$vkb@msunews.cl.msu.edu>
Source record: 105874

Does anyone know the RF insulating properties of Delrin? Is it terrible or comparable with other materials such Teflon, polyethylene, etc? Any input would be appreciated. Stan Flegler K8RPA, flegler@pilot.msu.edu

2597. Making professional looking panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: ke4eer@hiwaay.net
Message-ID: <4lge9o$d0n@parlor.hiwaay.net>
Source record: 105875

For those asking about the professional looking front panels for your projects, here is what i use and that works just great. I use a product called Masterpiece it's a metallic laser printer material with a self adhesive back. I use CorelDraw for the artwork, but other paint programs would work. Then i print it on my laser printer and have done many panels that look professional. The material comes in either Gold or Aluminum. I do advice a coat of clear spray to make wiping fingerprints of easyer. Be carefull tough not use a laqauer based spray, test it on a sample first. It's available at 1-800-A-PAPERS.

Bill ke4eer@amsat.org

2598. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4lgk3a$dfl@crash.microserve.net>
Source record: 105876

Post / CC by Mail

flegler@pilot.msu.edu (Stanley L. Flegler) wrote:

>Does anyone know the RF insulating properties of Delrin?

I have a catalog that shows specifications for Delrin AF blend as
follows:

Dielectric Strength Short Time (Volts/mil): 4,000
Volume Resistivity (Ohm/CM): 3x10^16
Dielectric Constant, 60 Hz: not specified
Dielectric Constant, 1 KHz: 3.1
Dielectric Constant, 1 MHz: 3.1

From the standpoint of voltage breakdown, this material is one of the
best. However, for overall electrical qualities, cross-linked
polystyrene is superior.

73,
Jack WB3U

2599. Re: QST Conflict of interest again.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4lgh59$i65@newsbf02.news.aol.com>
Source record: 105877

In article <4lg6u0$232@nntpa.cb.att.com>, rtw@fuwutai.att.com (Rob Whitacre) writes:

>
>The historical tube article was an out and out advertisement paid for by you
>and me. I see this all the time in trade publications I receive, but in that
>case I am not paying for them. When I pay for a magazine I expect the
>advertisers to pay too.
>
>Rob WB8WQA
>
>

The facts seem to suppport your comments 100 percent Rob.

But I am more concerned with the technical inacccuracies presented. It is a much larger problem when fact are mis-stated to promote a product, even in a paid ad.

Technical articles should be based on fact, not hyperbole.

I am puzzled why more of us don't share that view.

73 Tom

2600. Eico GDO Coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9603228302.AA830210248@mails.imed.com>
Source record: 105878

Someone is looking for coils for an Eico GDO. I have a set of coils that I am assured are for an Eico. If Jim Wier can give me some physical checks to let me know if my coils are for your GDO, You can have them for $25.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

2601. Re: CTCSS tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: morris@grian.cps.altadena.ca.us
Message-ID: <1996Apr22.013748.760@grian.cps.altadena.ca.us>
Source record: 105879

Andrew Zimmerman <andrewz@leba.net> writes:

>Does anyone know how to make a simple CTCSS tone generator to connect to
>the audio input line of a 2M crystal rig? Is there a chip to generate
>these tones? Thank you.

>Andrew

>---
>andrewz@leba.net Compu$erve 73307,2755 Amateur Radio AA3AK
>---

Check out the Communications Specialists ads in QST or 73 - they've
already done the engineering for you and $50 or so for a TS-32 is pretty
cheap - and if you have problems they'll help over the phone.... or fax.

--
Mike Morris morris@grian.cps.altadena.ca.us
#include <disclaimer.std.h> I have others, but this works the best.
This message assembled from 100% recycled electrons (and pixels).
Looking for CDA-banned material? Try the bible: Genesis 19:30-38

2602. Re: Need schematics for Linear Amp. (600 watt)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: sorgatz@avatar.tti.com
Message-ID: <DqA4L3.GHp@ttinews.tti.com>
Source record: 105880

In article <4kp7du$j16@nntp.interaccess.com> qwick@???????.com (Qwick) writes:
>Dave Perkins <dperkins@cts.com> wrote:
>
>> Me and my step-dad want to build a linear amp but we need to know what
>>parts to get and schematics on it...If anyone has any of the above or
>>maybe and article from QST on how to build one, please let me know..
>>
>> Please email me (I rarely check the newsgroups)
>> Any help would be greatful
>
>> Thanx again
>> Dave
>
>I'm a Computer Enginering major and for a project, I'd like to build a
>CB linear. Thus...
>I'd like the same info if possible... ecgorski@interaccess.com
>Thanks
>

Its obviously flame-bait...ignore him.

sorgatz@avatar.tti.com (or:es@soldev.tti.com) KB6LUY (private email:eks@westworld.com)
TTI 3100 Ocean Park Blvd. Santa Monica, CA 90405
"ANY COMMENTS OR STATEMENTS MADE ARE NOT NECESSARILY THOSE OF CITICORP, ITS SUBSIDIARIES
OR AFFILIATES." (Copyright 1995, ARR-permission to store/archive hereby granted)

2603. Re: RFI from linear amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <pcOX+FAIFtexEw44@briano.demon.co.uk>
Source record: 105881

In article <4lc05i$bl1@mtinsc01-mgt.ops.worldnet.att.net>, Doug Brede
<Davis.Brede.Tipton@worldnet.att.net> writes
>I've got a homebrew linear using a pair of 3-500Z tubes. Lately I've
>noticed some RFI being generated from it -- a S2 hiss across the bands
>above 40 meters. This hiss occurs on receive only when the high voltage
>is on, making me think that it is a diode in the HV supply.
>
>Does anyone know a way to spot the offending diode without replacing the
>whole bunch? I don't really want to poke around in a 4 kv supply when
>it's on. Ideas?
>
>Doug W3AS
>

-hello doug
this ones an old timer, i think you will find that the hiss is created by
secondary emmision i.e. the cloud of electrons straying from the anode/s
- you have in effect a broad band noise diode, remove the ht or change the
biasing arrangement
hope this was the answer 73's g8dqq
Brian Olliver

2604. Re: How to interface Osc "cans" w/ CMOS @ 12VDC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: "miker in Tigard, OR." <mreiney@hevanet.com>
Message-ID: <4lh5tt$rnr@vista.hevanet.com>
Source record: 105882
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Warning, the following is NOT good engineering practice. Don't use it on the Space Shuttle. It's hobby kludge. Works at slow clock rates.

Take an ordinary NPN transistor, (2N3904 or better). Connect the emitter to the oscillator output. Connect a 1K resistor from base to +5V. Connect a 1K resistor from collector to +12V. Collector to CMOS input. If your clock can has a lousy high level, you may have to add a pullup from output to +5V. 1K is my favorite resistor value.

Works for slow clock rates. You can make it go a bunch faster with the addition of a couple of diodes and another resistor to keep the transistor out of saturation and Vbe reverse protection.. By that time, it's cheaper/easier to use a translation IC.
miker

cyamamot@kilroy.jpl.nasa.gov (Cliff Yamamoto) wrote:
>Greetings,
>
>This may seem like a simple question, and I hope it is. But not having
>used these components before, I'm not sure.
>
>I have a CMOS circuit running off 12VDC. I need a clock source. Digikey
>has some Oscillator "cans" (I call them "cans" because they are in those
>silver cans the size of a 14pin DIP) from ECS that are labelled TTL/CMOS.
>
>What I don't know is, can I interface these ECS TTL/CMOS oscillators
>directly to my CMOS circuit? I believe these oscillators run off of
>5VDC so do I need a pullup to 12VDC on their output? I'm driving a
>CD4518 chip for divide purposes.
>
>Thanks in advance for any advice.
>
>Regards,
>- Cliff

2605. Anyone have Amidon phone number?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: BILLY@urhep.pas.rochester.edu
Message-ID: <1996Apr22.224410.26541@galileo.cc.rochester.edu>
Source record: 105883

Does anyone have the phone number, address or 'net address of Amidon
Associates?

-Bill VanRemmen, KA2WFJ
billy@urhep.pas.rochester.edu
URHEP::billy
http://www.pas.rochester.edu/~bill/

My opinions. No one in their right mind would claim otherwise.
==

It is the doom of men that they forget. -Merlin

==

2606. Re: Solar?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <317C0443.203B@lanl.gov>
Source record: 105884

Try alt.solar.photovoltaic newsgroup
--
|---|
|Jim Devenport |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
HTTP://nis-www.lanl.gov/~jdport/

2607. ft736r interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: D Montgomery <kc5ccq@wt.net>
Message-ID: <317C3CD9.11F1@wt.net>
Source record: 105885

Hello kc5ccq: I am looking for a interface scamatic for the 736r ....
kc5ccq@wt.net

2608. QST Conflict of interest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: Clint.Bradford@bbs.woodybbs.com
Message-ID: <574_9604230140@woodybbs.com>
Source record: 105886

Subject: QST Conflict of interest again.

W >I was dismayed to see an advertisement for a certain tube "hidden" in an
>article about an 811A in QST.

You didn't believe that the article - when taken in its entirety -
benefitted the Amateur community with its information?

Clint Bradford

* 1st 2.00 #8286 * Practice skepticism in order to avoid cynicism.
---
* wcECHO 4.1 ~ AR-Net: ATTENTION to Details * Mira Loma, CA * 909-681-6221
--
|Fidonet: Clint Bradford 1:2619/228
|Internet: Clint.Bradford@bbs.woodybbs.com
|
| Standard disclaimer: The views of this user are strictly his own.

2609. Pinout for MRF966

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: crispest@netcom.com
Message-ID: <crispestDq9qIv.D4v@netcom.com>
Source record: 105887

Help, need pinout for mrf966. any help appreciated.

N7UJU, Chris in Gilbert, AZ.

2610. Re: Need info: So Cal surplus/electronics/ham shops

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-22 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDqDIL3.KMr@netcom.com>
Source record: 105888

in <jamestDq8qtw.E78@netcom.com>, JT wrote:
: Anyone else have good "secret" spots they'd like to let us in on ? :)

For those with WWW access, try the surplus directory pages in
Filip G's pages.

http://www.paranoia.com/~filipg/

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2611. Re: CTCSS tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: bb840@scn.org
Message-ID: <DqAK1B.1CJ@scn.org>
Source record: 105889

In a previous article, andrewz@leba.net (Andrew Zimmerman) says:

>
>Does anyone know how to make a simple CTCSS tone generator to connect to
>the audio input line of a 2M crystal rig? Is there a chip to generate
>these tones? Thank you.
>
I don't know how to make one, but Communication Specialists sells a very
good board for under $30 and will provide information needed to interface
with almost any rig.
--
Jim Aeschliman bb840@scn.org
Black Diamond, Washington KD7MK

2612. Re: New Svetlana Trasmitting tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: Spencer Petri <spetri@e-tex.com>
Message-ID: <4lhgsn$n2b@e-tex.com>
Source record: 105890

807s work up to 6 mtrs, if you can getem neutralized up there. They were used in the old low bamd commercial radios.

73 de Pete WA5JCI EM 21

2613. Re: Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4lhjil$2dt@cc.iu.net>
Source record: 105891

In <960417201352110 81@amigabee.posnet.co.uk>, Steve Clements
<steve.clements@amigabee.posnet.co.uk> writes:
>Then application of the nice fonts you can get in Letraset (rub down
>lettering) these days for the text.

works, but, boy, those rub off letters sure can be a pain to use.

limited ability to set odd sizes for best fit as well....

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

2614. Looking for info on QRP 6 meter circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: lamackey@smart.net
Message-ID: <4lhhmj$lbp@usenet6.interramp.com>
Source record: 105892

I am interested in building a 6 meter QRP setup for my own
experimenting.

While I have some old circuits, I was hoping to find some more upto
date designs using some of the IC's that I assume are on the market
today.

I am hoping to be able to make the transmitter and receiver more
compact (for backpacking, etc.)

Anyone have any ideas where I can look?

Regards
Larry Mackey WD6GGJ
Larry Mackey Staff EE Oceaneering Technologies
16201 Trade Zone Ave. Upper Marlboro, MD 20774
Voice Mail: 301 249 3300 FAX Mail 301 390 1309
E-Mail: lmackey@adtech1,oceaneering.com

2615. Re: RFI from linear amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4lhr62$rlt@crash.microserve.net>
Source record: 105893

Doug Brede <Davis.Brede.Tipton@worldnet.att.net> wrote:

>I've got a homebrew linear using a pair of 3-500Z tubes. Lately
>I've noticed some RFI being generated from it -- a S2 hiss across the
>bands above 40 meters. This hiss occurs on receive only when the
>high voltage is on, making me think that it is a diode in the HV
>supply.

This is probably the result of diode noise generated in the tubes themselves. However, it's rare in my experience to encounter this except when an electronic T/R switch is in use.

Maybe you could describe the setup in more detail, particularly the means used to implement T/R switching? Do you cut off the tubes in receive, or do they draw idling current all the time? Also, how is your antenna system being fed?

73,
Jack WB3U

2616. Re: Anyone have Amidon phone number?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4lhtou$sg4@crash.microserve.net>
Source record: 105894

Post / CC by Mail

BILLY@urhep.pas.rochester.edu (Bill VanRemmen) wrote:

>Does anyone have the phone number, address or 'net address of Amidon
>Associates?

Amidon Associates
P.O. Box 25867
Santa Ana, CA 92799

Ph: (714) 850-4660
Fax: (714) 850-1163

Sorry, don't know if they're on the 'net.

73,
Jack WB3U

2617. WANTED: old-time parts for HB xmtr projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: QRP%mimi@magic.itg.ti.com
Message-ID: <4liivl$8lo@mksrv1.dseg.ti.com>
Source record: 105895

Hey, old timers, I'm looking for some parts for transmitter projects I'm thinking about undertaking. I missed out on the "good ol' days" of vacuum tube homebrewing (I was licensed in 1977) so I'm living the "good ol' days" now! Here are some of the parts I need that I can't find locally:

National R-100 2.5 mH RF choke (need five of these)
Tube socket for an 807 (need one)
National XR-50 slug-tuned coil form (need one or more)

Does anyone have any of these parts they can spare me?
73 de KC5NG (Dean Hemphill, Lake Dallas, TX)

PS: I'm already running a one-tuber (with a 6T9 Compactron), that I built last year, based on a project appearing in the 1968 edition of ARRL's "How To Be A Radio Amateur". Four Watts on 80m and 40m CW... crystal controlled!

2618. Re: QST Conflict of interest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4liegl$b73@newsbf02.news.aol.com>
Source record: 105896

In article <574_9604230140@woodybbs.com>, Clint.Bradford@bbs.woodybbs.com
(Clint Bradford) writes:

>You didn't believe that the article - when taken in its entirety -
>benefitted the Amateur community with its information?
>
>Clint Bradford

No, not at all. See the thread in equipment.

73 Tom

2619. Re: CTCSS tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: rtw@fuwutai.att.com
Message-ID: <4lihp7$8ld@nntpa.cb.att.com>
Source record: 105897

In article <Pine.BSI.3.91.960419213917.1980A-100000@fig.leba.net>,
andrewz@leba.net says...
>
>Does anyone know how to make a simple CTCSS tone generator to connect to
>the audio input line of a 2M crystal rig? Is there a chip to generate
>these tones? Thank you.
>
>Andrew
>
>--
>andrewz@leba.net Compu$erve 73307,2755 Amateur Radio AA3AK
>--
>
>

The Comm Spec boards work great, but if you are really interested in building your own, check out a company called MX-COM, INC., 800-638-5577.For example, the MX315 will do what you want.

Rob WB8WQA

2620. All tube class D AM TX any tricks. Any ideas regarding implementation.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <4lijv0$60s@ka4ybr.netmha.com>
Source record: 105898

I've been thinking of building an AM TX for 160m and 80m and
not having any suitable transformers for modulating the plate
thought that just maybe I could do it by pulse width modulation.

Here's the tricky part, I want to do this with tubes.
Any suggestions?

I'd like to keep this fairly simple as far as the power supply goes
so it's gonna be 807 or 1625 or 6146 type final.

WHat sort of tube would make a good modulator for class D?
Any suggestions for turning the audio from the mike into PWM via tubes?

-bob
WB4MNF

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

2621. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <317CCFC8.1917@arrl.org>
Source record: 105899

Gary Coffman wrote:

> Yeah they often are, in fact it's almost standard practice. When
> I order a 145.01 MHz channel element for a Micor, that's what's
> going to be stamped on it, even though that's not the frequency
> at which the crystal oscillates.

International Crystals 1-800-426-9825 asks you for both the channel and crystal frequency on their order blanks--presumably the channel frequency is what they stamp the crystal with.

Zack KH6CP/1

2622. Re: How to interface Osc "cans" w/ CMOS @ 12VDC?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: cooperjim@aol.com
Message-ID: <4line8$djs@newsbf02.news.aol.com>
Source record: 105900

Another way would be to just use a capacitor (0.1 uF a good start) between the can oscillator and the first CMOS gate. I would NOT use this method for anything serious without a great deal of thought, but for quick results it should work fine.
Most CMOS gates will self bias to about their transistion region if the input is left floating. Ac coupling the clock signal to this floating gate should swing the input about the switch point and get the signal into the system. If the input uses a Schmidt trigger, so much the better, but regular gates should work. If the first stage is an inverter, a 1 Meg resistor from the output to the input will bias it into the linear region without relying on internal leakage.
This will work best for higher speed oscillators > 100 KHz (?). The frequency should be high enough that the bias leakage will have minimal effect over a clock period. If the frequency is too low, the clock edges will be differentiated giving you probable multiple clocks. Also, at low frequencies, there is enough time for the bias to move the input dc level to the transistion region causing the circuit to chatter.
Expect higher current consumption since the first CMOS stage may alwaysould help here. Also expect increased sensitivity to circuit noise.

2623. Re: Tucker TVI filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4lirb4$ed2@newsbf02.news.aol.com>
Source record: 105901

Hi Lee,
In a message dated 96-04-23 10:17:36 EDT, you write:
>
>A good source for good High Pass filters? Where do you find ferrite
cores
>these days? Any help would be appreciated. TU
>
>Lee

I can tell you a **poor source** for TVI filters, Tucker electronics.

The Tucker low-pass filter my friend bought was in a pretty looking, heavy case. But the case had paint on the cover mounting edges and insulating washers under the cover screws. It had long wire lead conventional disk capacitors and toroids as the filter element. The construction was unthinkably POOR for a VHF-UHF filter.

It had severe case radiation, and poor VHF-UHF attenuation. It actually CAUSED TVI in my friend's installation!

We replaced it with a jumper and TVI was reduced, we added an old Bencher and the TVI went away!

73 Tom

2624. 2 Watt Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: Russell Chandler <rhchan@tsquare.com>
Message-ID: <Pine.LNX.3.90.960423113633.4360B-100000@tsquare.com>
Source record: 105902

Could someone point to a source for
2 Watt, 5% Tolerence, Carbon Composistion
resistors.

Thanks
Russell

2625. Re: Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4lj1cp$4na@hpcvsnz.cv.hp.com>
Source record: 105903

Bill Newkirk (wnewkirk@iu.net) wrote:
: In <960417201352110 81@amigabee.posnet.co.uk>, Steve Clements
<steve.clements@amigabee.posnet.co.uk> writes:
: >Then application of the nice fonts you can get in Letraset (rub down
: >lettering) these days for the text.

: works, but, boy, those rub off letters sure can be a pain to use.

: limited ability to set odd sizes for best fit as well....

Well, one thing you could do is create the image you want and
transfer it to 3M's INT ("Image 'n Transfer") film to create
a dry-transfer image of just what you want. Seems like a
rather convoluted way to do it, but it would get around the
problem you mention.

--
Cheers,
Tom
tomb@lsid.hp.com

2626. Re: July QEX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.830276922.4407.jwicklun@mycroftxxx.halcyon.com>
Source record: 105904

In article <4le26g$c0s@wmwap1.math.uni-wuppertal.de>,
<schneide@wrcs1.urz.uni-wuppertal.DE> writes:

>
> Hi, i didn't even get my December QEX.
>
> --
> Robert Schneider 0202/4392244
> schneide@wrds1.urz.uni-wuppertal.de
>
Hi Robert, sorry to hear that you're still missing the December issue
(disclaimer here - not my fault). They're starting to get caught up,
I received the Dec, Jan, and Feb issues in the past few weeks. If
you're not getting yours, you might email qex at "qex@arrl.org"

73....Jay

2627. Re: 2 Watt Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: cgreenha@magnus.acs.ohio-state.edu
Message-ID: <cgreenha.306.317D26BF@magnus.acs.ohio-state.edu>
Source record: 105905

In article <Pine.LNX.3.90.960423113633.4360B-100000@tsquare.com> Russell Chandler
<rhchan@tsquare.com> writes:
>From: Russell Chandler <rhchan@tsquare.com>
>Subject: 2 Watt Resistors
>Date: Tue, 23 Apr 1996 11:38:17 -0400 (EDT)

>Could someone point to a source for
>2 Watt, 5% Tolerence, Carbon Composistion
>resistors.

> Thanks
> Russell

Hi Russell.

Allen-Bradley, Ohmite, and Im sure others carry these...a good place to contact
that carries both of these manufactuers is Newark Electronics. They are
nationwide, but dont have a "global" 800 number.

Write me back with your location, and I will give you the closest store number.

Take care.

Christopher K. Greenhalgh, N8WCT
Computer/Electronic Tech. II at The Ohio State University
E-Mail: ckg+@osu.edu (cgreenha@magnus.acs.ohio-state.edu)
AX.25 : n8wct@w8cqk.#cmh.oh.usa.noam

2628. Article in ETI

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: sedev@iol.ie
Message-ID: <4lj81f$12f@nuacht.iol.ie>
Source record: 105906
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono

There's a 5 part series on valve radio servicing and restoration in
the latest edition of ETI (Electronics today international) magazine

2629. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DqC0op.Ju7@ncifcrf.gov>
Source record: 105907

In article <4lg7bv$vkb@msunews.cl.msu.edu> flegler@pilot.msu.edu (Stanley L. Flegler) writes:
>Does anyone know the RF insulating properties of Delrin? Is it terrible
>or comparable with other materials such Teflon, polyethylene, etc? Any
>input would be appreciated. Stan Flegler K8RPA, flegler@pilot.msu.edu
>
Not sure what you mean here. Delrin doesn't insulate from RF
at all. RF goes straight through it, which is why it is used
, similary for teflon etc

Joe Mack
mack@ncifcrf.gov

2630. Electronic components data: need help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: py3crx@sp-gw.py2bjo.ampr.ORG
Message-ID: <12560@SP-gw.ampr.org>
Source record: 105908

Hi all.
I'm looking for some tech. iformation at the following items:

- CELLULAR PHONE PWR MODULE, LABELED FMC080802-20, REMOVED FROM A
NEC CELL-PHONE.
- 2SC1251, A NEC TRANSISTOR (SUPOSE TO BE A CLASS A UHF DRIVER)
- IF THERE IS ANY CODE TO SMD TRANSISTOR AND DIODES/MIXERS SIMILLAR
TO THE WE USE TO SMD (CAPACITORR AND RESISTORS).
- ANY SOURCE FOR SAW-FILTERS, 455KHZ OR 10.7MHZ, 40khz BW(NOAA/GOES/
METEOSAT DEVIATION).
- HRPT INFORMATION/SOFTWARE SOURCES.
- PATCH ANTENNAS THEORY (AND THEIRS YAGI-LIKE ASSEMBLY)

THANKS IN ADVANCE!

73 - Marcus Ramos - PY3CRX@SP-GW.AMPR.ORG - Sao Paulo - Brasil

2631. Re: Question about Motorless RPM Transitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: ccurtis@nfsrv.avionics.ITt.COM
Message-ID: <317CFF7D@avint4.avionics.itt.com>
Source record: 105909

Date: 21 Apr 1996 19:20:52 GMT
From: lenny+@pitt.edu (Joseph L Flatley)
Subject: Question about Motorola RF Transitors

sorry for the crossposting but I REALLY need help with this.

Ok I've just blown the SD1272 that is in the Ramsey PA-1 Kit. Now of course I'd like to replace it. I've heard that the Motorola MRF-239 can be used as a direct replacement of it but I'd like to know if there are any other MRF transistors that will give a higher output power. So if any of you have the Motorola RF Transistor book, I'd very much apperciate the specs on the MRF-239 and whatever other transistors I can use in the PA-1. thanks in advance

---

Hi Joe, the latest Motorola replacement for the SD1272 and MRF-239 is the MRF-1946A. Just like the MRF-239, the MRF-1946A is rated to provide 30 watts output with a 12.5 supply and a power gain of 10 dB at 175 Mhz (Class C). There is no higher power substitute from Motorola, all other conditions being equal. One normally would add another transistor stage having a lower gain to boost the power further.

Chuck, N2UCN

2632. Looking for info on QRP 6 meter circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: lamackey@smart.net
Message-ID: <4ljiqc$lla@usenet6.interramp.com>
Source record: 105910

I am interested in building a 6 meter QRP setup for my own experimenting.

While I have some old circuits, I was hoping to find some more upto date designs using some of the IC's that I assume are on the market today.

I am hoping to be able to make the transmitter and receiver more compact (for backpacking, etc.)

Anyone have any ideas where I can look?

Regards
Larry Mackey WD6GGJ
Larry Mackey Staff EE Oceaneering Technologies
16201 Trade Zone Ave. Upper Marlboro, MD 20774
Voice Mail: 301 249 3300 FAX Mail 301 390 1309
E-Mail: lmackey@adtech1,oceaneering.com

2633. [Q] Ten-Tec 6M Transceiver Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: ggherb@ccmail.monsanto.com
Message-ID: <NEWTNews.830287055.4730.Postmaster@GGHERB.MONSANTO.COM>
Source record: 105911

Hi All,

I was wondering if anyone has built this kit or the 2M kit. I just ordered the 6M kit which is suppose to ship in 2 weeks. Any comments would greatly be appreciated.

Thanks,

Gary-

2634. Re: Pinout for MRF966

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: heiss@ualr.edu
Message-ID: <heiss.69.00D6FF24@ualr.edu>
Source record: 105912

In article <crispestDq9qIv.D4v@netcom.com> crispest@netcom.com (Chris Hinkle) writes:
>Newsgroups: rec.radio.amateur.homebrew
>Newsgroups: rec.radio.amateur.homebrew
>ton.ans.net!ixnews1.ix.netcom.com!netcom.com!crispest
>From: crispest@netcom.com (Chris Hinkle)
>Subject: Pinout for MRF966
>Message-ID: <crispestDq9qIv.D4v@netcom.com>
>Organization: NETCOM On-line Communication Services (408 261-4700 guest)
>X-Newsreader: TIN [version 1.2 PL1]
>Date: Mon, 22 Apr 1996 14:49:43 GMT
>Lines: 3
>Sender: crispest@netcom19.netcom.com

> Help, need pinout for mrf966. any help appreciated.

>N7UJU, Chris in Gilbert, AZ.

Hi Chris:

I have a Motorola RF Devices Data Book. The pinout was not listed along with
the device. I found it for case styles 2 and 3 in the case dimensions
section. The MRF966 is a style 1 case. I'll give you the style 2 pinout,
which is for a BJT. The MRF966 is a dual gate MES-FET.

1 collector
2 emitter
3 base
4 emitter
The long pin is 1. With the case face up the pins are numbered in a clockwise
fasion.
WARNING ! ! ! I can't garrantee that this is correct for style 1!

Larry
heiss@ualr.edu

2635. Re: CTCSS tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: dkelly@hiwaay.net
Message-ID: <dkelly-2304961857120001@max1-167.hiwaay.net>
Source record: 105913

In article <4lihp7$8ld@nntpa.cb.att.com>, rtw@fuwutai.att.com (Rob Whitacre) wrote:

> In article <Pine.BSI.3.91.960419213917.1980A-100000@fig.leba.net>,
> andrewz@leba.net says...
> >
> >Does anyone know how to make a simple CTCSS tone generator to connect to
> >the audio input line of a 2M crystal rig? Is there a chip to generate
> >these tones? Thank you.
> >
> >Andrew
> >
> >--
> >andrewz@leba.net Compu$erve 73307,2755 Amateur Radio AA3AK
> >--
> >
> >
>
> The Comm Spec boards work great, but if you are really interested in building
> your own, check out a company called MX-COM, INC., 800-638-5577.For example,
> the MX315 will do what you want.

The MX315 is a very nice part and its under $5 in modest volume. Last time I heard MX-COM would sell low volume to those who are interested.

Also Ramsey makes at least one CTCSS kit, the one I'm thinking of uses the MX165 (or was it the MX365?) which encodes and decodes. Don't know how much the kit was.

73,
--
David Kelly N4HHE, n4hhe@amsat.org, dkelly@hiwaay.net
==========
To invent, you need a good imagination and a pile of junk.
- Thomas Edison

2636. Re: Aviation Converter for Automobile ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: bowman@montana.com
Message-ID: <4liprl$j3l@maw.montana.com>
Source record: 105914

In article <4la2ge$18a@news.atnet.net>, mrpeters@atnet.net (Mark R. Peterson) says:
>
>About ten years ago I purchased a self-powered converter which picked up
>aviation band signals and ran them through my car stereo.
>Does anyone know of plans/kits for such a unit. It couldn't have been
>that hard to do... cost was around $30 in 1984.

check out Ramsey, 1-800-4 HOBBY KITS. i don't know if they have a
converter, but they do have a aircraft receiver for 30 bucks, solder
and bandaids extra.

2637. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: bowman@montana.com
Message-ID: <4liq9n$j3l@maw.montana.com>
Source record: 105915

>Gary, thanks for posting this. My only silkscreen experience was
>about twenty years ago when I printed my own QSL cards. I didn't
>realize photoresist could be applied directly to the silk. Neat.

you can also photoprocess a sheet of gel, and adhere it to the silk.
its a fairly easy processs, and gives a little better resolution
for pc work. the name escapes me at the moment, but there is one
company that is real big in the field. they have an excellent line
of aluminum frames, registration devices, and so forth. a little
spendy for a one off hobby project, but will really pay back if you
are doing volume. wooden frames, vise grip type stretchers, and that
stuff is best left for qsl cards. check Thomas Register, as i'm sure its
listed. i'll post the name, if it ever surfaces in my failing neural
net.

2638. Anodizing Front Panels?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-23 00:00:00 UTC
From: Rex Hebert <hebert@linknet.net>
Message-ID: <317D67D2.4A44@linknet.net>
Source record: 105916

I've always wondered ...
How does Anodizing work? Whats the process?
I imagine it to be something like electroplating.
Can it be done at home for small project front panels?
Does it only work with aluminum?

Is there a FAQ that addresses this?
Thanks

Rex Hebert

TECH TOYS!
Microcontroller Solutions
Lafayette, Louisiana

hebert@linknet.net

2639. Re: Wanted: RS232 to TTL

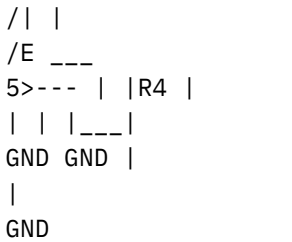
Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: Charlie Panek <charlier@lsid.hp.com>
Message-ID: <317E626E.511C@lsid.hp.com>
Source record: 105779

Ricky Scott wrote:
>
> Im looking for a RS232 to TTL converter that I could use with my ICOM 735
> to control its functions. Anyone have a quick and dirty Schematic or an
> article I could Find (No Commercial Boxes please).
>
> --
> Ricky J. Scott

This one comes up every so often, so I thought I might as well post
my little circuit, rather than just email it to Ricky. I think you'll
agree that this is about a simple as it gets!
--
Charlie Panek Hewlett Packard Company
charlier@lsid.hp.com Lake Stevens Division
Everett, Washington

The tightwad's ICOM CI-V interface:
DB-9F
+9V

```
___
pin CR1 |
4 >--->|--------------------------------
CR2 | | |
7 >--->|------------ ___ |
___ C1 ___
| | R2|
GND |___|
|
|
|
C/---------------------------------------------> to IC-735
|/ | | --->
3>---|R1|---| Q1 | | |
| |\ ___/ | GND
| E\ +9V / ^ CR4 |
CR3___ | ___ | |
^ | | | |
| GND ___ GND |
| |R5 | |
GND |___| |
| |
2>------------------------\C |
\| |
Q2 |-------------|R3|---|
```



Parts List:

C1: .1 uf ceramic cap.

CR1,CR2,CR3: 1N914, or just about any silicon diode, good for 25V, 100mA.

CR4: 5.1V Zener diode.

R1,R2: 10K ohms

R3,R4: 47k ohms

R5: 1.5k ohms

Q1, Q2: 2N3904 or just about any small signal, NPN switching transistor.

Note that no external power is required, if the software supports it.
If the software drives pins 4 or 7 of the DB-9 high, they will supply the
voltage to run the interface. If the software doesn't do this, connect
a 9V battery or other supply to the +9V node.

Note also that this interface will work fine with *most* PC's, even though
it doesn't generate "true" RS-232 voltage levels. It's a little known fact
that most RS-232 circuits actually have an input switching threshold of
about +1V, and will respond just fine to TTL levels. (e.g. the MC1489
chip.) I haven't encountered any that won't work, though, in my limited
experience.

2640. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4lm12q$9vt@crash.microserve.net>
Source record: 105780

Post / CC by Mail

mack@ncifcrf.gov (Joe Mack) wrote:

>Not sure what you mean here. Delrin doesn't insulate from RF
>at all. RF goes straight through it, which is why it is used
>, similary for teflon etc

Hi Joe,

Which technical specification of plastics provides an indicator of
this characteristic?

73,
Jack WB3U

2641. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: ballnt@aztec.asu.edu
Message-ID: <4lluni$aoh@news.asu.edu>
Source record: 105781

In a previous article, jackl@pinetree.microserve.com (WB3U) says:

>>Not sure what you mean here. Delrin doesn't insulate from RF
>>at all. RF goes straight through it, which is why it is used
>>, similary for teflon etc
>
>Hi Joe,
>
>Which technical specification of plastics provides an indicator of
>this characteristic?
The loss tangent or dissipation factor shows how much RF energy is absorbed
by the material. Most plastics references only give a value at 60 Hz and
maybe 1 MHz. With most plastics the loss increases at higher frequencies.
The dielectric constant also changes with frequency, so you have to be careful
using handbook values for that also.
--
John Ballentine WB2SNB Divina natura dedit agros,
Chandler, Arizona ars humana aedificavit urbes.

2642. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: cj@hth.com
Message-ID: <317e64b5.0@news.buller.se>
Source record: 105782
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

[--- cut ---]
```

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------

Title :
Author: Date:

E-mail: (optional)
-------------------------------------------------------------------------

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)
-------------------------------------------------------------------------
Description : (5-50 rows describing your application)

=========================================================================

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
```

2643. Re: Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4lm0mn$2js@hpcvsnz.cv.hp.com>
Source record: 105783

Mark Pettigrew (m.w.pettigrew@shu.ac.uk) wrote:
: Tom Bruhns wrote:
: > Well, one thing you could do is create the image you want and
: > transfer it to 3M's INT ("Image 'n Transfer") film to create
: > a dry-transfer image of just what you want. Seems like a

: Could you give a bit more detail of the INT film, Tom?

I'm not sure 3M still make it. It is/was like sheets of solid black
dry transfer material. You expose it through a line negative to
intense light and develop it with special INT developer, which washes
away the black where the film wasn't exposed to light. The result is dry
transfer material with whatever line pattern you want: lettering,
logos, block diagrams, smiley faces, Celtic lace patterns, whatever.

--
Cheers,
Tom
tomb@lsid.hp.com

2644. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: n4lq@iglou.com
Message-ID: <DqDvKL.C4K@iglou.com>
Source record: 105784

Dupont has the info on webb url
www.ashchem.com/GP/data/14134.htm
resistance is listed in great detail. 73

Stanley L. Flegler (flegler@pilot.msu.edu) wrote:
: Does anyone know the RF insulating properties of Delrin? Is it terrible
: or comparable with other materials such Teflon, polyethylene, etc? Any
: input would be appreciated. Stan Flegler K8RPA, flegler@pilot.msu.edu

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

2645. QRP project

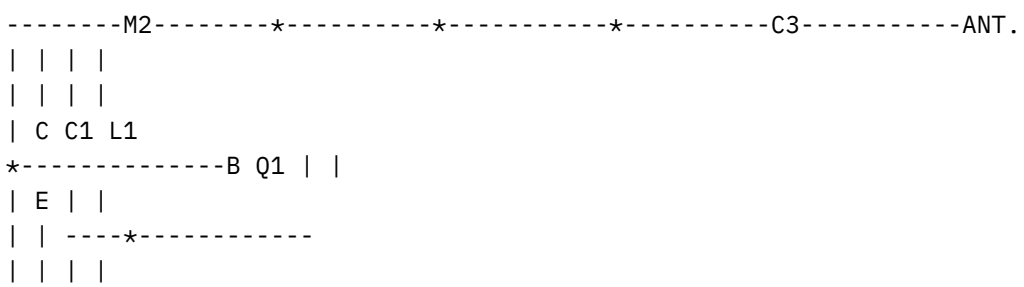
Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: nobody@haha.org
Message-ID: <2590.6687T906T2847@haha.org>
Source record: 105785

Hi Gang,
Here is the first of many very SIMPLE QRP transmitters. I make no claims to their performance! In the next few weeks I'll give you xmtrs for 80, 40, 20, and 2 meters; most requiring 3 or less transistors. The circuits come from 2 out-of-print ham projects books (c. 1968) so I will assume there will be no copyright problems.
Project 1 is a simple 40 meter xmtr; it should only take 15 minutes to build it (if you've got the parts). I wasn't able to draw the symbol for each part on this terminal, so I put the part number in it's place. Hope you don't mind... Note that the case of Q1 should be grounded. Here's the text for this project, taken from "101 EASY HAM RADIO PROJECTS" by Robert M. Brown, k2zsq/w9hbf and Tom Kneital, k2aes/wb2aai:

"Want to really shake up your next contact? Just tell him you are using this one-transistor CW rig! Most Novices and other hams shy away from these little gems thinking they are hopelessly underpowered. Not so! More than 50 contacts - all located over 75 miles distant - have been logged with this rig connected to the backyard longwire!
"Construction is quite simple and, in fact, there is not much to say about it. Reason: there isn't very little that can go wrong!
"L1 should be adjusted for maximum deflection on an FSM as the key is depressed. Crystal should be a fundamental frequency type for 40-meter operation."

Parts list:

C1 68 pF capacitor
C2 .015 uF capacitor
C3 10 pF capacitor
L1 25 turns of No. 26 enameled wire wound on a 3/8 in. slug-tuned form (National XR-91 or equiv.)
M1 4.5 volt battery
M2 40-meter fundamental freq. crystal
Q1 GE-9 transistor
R1 91K resistor



```
R1 GND | |
| C2 |
| | |
| GND |
| |
----------------------------*---------_M1+---KEY-------GND
```

That's it! Note that GND = ground (and note the polarity of M1).
For Q1, I've labelled its leads B = base, C = collector, E = emitter.
* indicates a junction of 3 or more leads.
Remember, no flames if it doesn't work; I'm just the messanger!
Project 2 will be an 80M VFO QRP xmtr; stay tuned. (Oh yes, there
IS a 2M xmtr on the way).

2646. Re: 50 MHz SSB transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: Mark Mandelkern <kn5s@lascruces.com>
Message-ID: <4lm752$dgu@chile.lascruces.com>
Source record: 105786

dgordon@osiris.gb.nrao.edu (David Gordon) wrote:
>
> What would be a good pair of 50 MHz SSB transistors to use with a
> supply voltage of 13.6 VDC? .....I am looking for an output of
> 140-180 watts ...

Six meter operators have found that solid state amps at
that power level create unacceptable IMD and interference on
adjacent channels. Signal levels in the local region and
on skip are so high that careful attention to signal quality
is essential.

A 4CX250B or other tube amp will give you a clean signal at
the power level you want.

73, Mark KN5S DM62 NM

2647. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4llk7q$ofg@dfw-ixnews7.ix.netcom.com>
Source record: 105787

In <DqC0op.Ju7@ncifcrf.gov> mack@ncifcrf.gov (Joe Mack) writes:
>
>In article <4lg7bv$vkb@msunews.cl.msu.edu> flegler@pilot.msu.edu
(Stanley L. Flegler) writes:
>>Does anyone know the RF insulating properties of Delrin? Is it
terrible
>>or comparable with other materials such Teflon, polyethylene, etc?
Any
>>input would be appreciated. Stan Flegler K8RPA,
flegler@pilot.msu.edu
>>
>Not sure what you mean here. Delrin doesn't insulate from RF
>at all. RF goes straight through it, which is why it is used
>, similary for teflon etc
>
> Joe Mack
> mack@ncifcrf.gov

I'm not sure what you mean either Joe, are you implying that Delrin,
conducts RF? I believe the original post was trying to figure out if he
could use Delrin as an insulator i.e antenna insulator, HV choke
insulator, etc.

I can not comment on the electrical characteristics but I have used
Derin successfully for antenna projects.

Tim, ka8ddz

2648. Re: RFI from linear amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4lmp04$t1g@newsbf02.news.aol.com>
Source record: 105788

In article <4lhr62$rlt@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>
>This is probably the result of diode noise generated in the tubes
>themselves. However, it's rare in my experience to encounter this
>except when an electronic T/R switch is in use.
>
>Maybe you could describe the setup in more detail, particularly the
>means used to implement T/R switching? Do you cut off the tubes in
>receive, or do they draw idling current all the time? Also, how is
>your antenna system being fed?
>
>73,
>Jack WB3U
>
>

Another source of hissing is corona in the HV transformer or related components. In that case, it is a sign of impending disaster.

Usually it is shot noise in the tube, but it is very unlikely it would be loud enough to hear if the relay is working correctly and disconnecting the tank.

Perhaps he is using an electronic TR switch?

73 Tom

2649. Re: 2 Watt Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <4lm36o$3ss@dfw-ixnews4.ix.netcom.com>
Source record: 105789

In <4lka4j$5bg@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom)
writes:
>
>In article <Pine.LNX.3.90.960423113633.4360B-100000@tsquare.com>,
Russell
>Chandler <rhchan@tsquare.com> writes:
>
>>Could someone point to a source for
>>2 Watt, 5% Tolerence, Carbon Composistion
>>resistors.
>>
>>
>
>Make sure they are carbon comps! To my knowlege, only A-B still makes
them
>and they are special order. At least in manufacturing quantities.
>
>73 Tom
In the last few issues of ECN (Chilton's Electronic Component News) a
company called Caddock had been advertising power film resistors in
which the term "with Non-Inductive Design" is accented and repeated.
They are available in axial, radial and TO-220 style packages.

Caddock Electronics, Inc.

Applications: 541-496-0700

Sales: 909-788-1700
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

2650. Fast scan on TM-742A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: daniel.lacasse@com18.com
Message-ID: <RERAAMHO.25F8@com18.com>
Source record: 105790

Does any one know a mod that allow TM-742A to scan faster?
It is quite slow! :-I

73's de | Fido: 1:240/118 | Internet: Daniel.Lacasse@com18.com
I)aniel | Franco: 101:155/118 | Packet: VE2DLX@VE2SJC.#QBC.PQ.CAN.NA

2651. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDqFFFG.I0x@netcom.com>
Source record: 105791

in <4liq9n$j3l@maw.montana.com>, robert bowman wrote:
: >Gary, thanks for posting this. My only silkscreen experience was
: >about twenty years ago when I printed my own QSL cards. I didn't
: >realize photoresist could be applied directly to the silk. Neat.

: you can also photoprocess a sheet of gel, and adhere it to the silk.
: its a fairly easy processs, and gives a little better resolution
: for pc work. the name escapes me at the moment, but there is one
: company that is real big in the field. they have an excellent line
: of aluminum frames, registration devices, and so forth. a little
: spendy for a one off hobby project, but will really pay back if you
: are doing volume. wooden frames, vise grip type stretchers, and that
: stuff is best left for qsl cards. check Thomas Register, as i'm sure its
: listed. i'll post the name, if it ever surfaces in my failing neural
: net.

Ulano ?

The buzzwords seem to be direct (a photoemulsion that is exposed and
developed on the screen) and indirect (a photoemulsion that is exposed
and developed on the backing paper and then applied to the screen).
A tradeoff for ease of use versus accuracy.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

2652. RE: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: Bob Recny <brecny@globetek.com>
Message-ID: <01bb318f.5c724e60$6678d4cd@BRECNY>
Source record: 105917

On Monday, April 22, 1996, Ricky Scott wrote...
> Im looking for a RS232 to TTL converter that I could use with my ICOM
735
> to control its functions. Anyone have a quick and dirty Schematic or an
> article I could Find (No Commercial Boxes please).
Ricky,

Do you have +/-12v and +5 available? If so, just use a 75185 from TI. Most electronics distributors have it. It should be around $1 to $1.50 in small quantities. It has a complete set of drivers and receivers for the PC side of the serial port. (Drivers for TxD, DTR, RTS; Receivers for RxD, DSR, CTS, CD, RI) I believe they also have a version with the opposite number of drivers and receivers for the peripheral side.

Also, check out the old standby 1489 (4x receiver) and 1488 (4x driver). (AKA 75189 and 75188 by TI).

All of these chips take RS-232 and translate it to TTL in the prescribed direction.

If all you have is +5v, then check out Maxim, Linear Technologies and Sipex. They have chips with charge pumps to create the 12 volt supplies by adding a few capacitors external to the chip. Likewise, if all you have is +12v, then use one of this type with a voltage regulator to bring its starting voltage to +5v.

I believe most of these companies have web pages, though I don't have any bookmarked. TI's is www.ti.com (I think).

Good Luck and 73
Bob / N8SQT
N8SQT@N8SQT.#NEOH.OH.USA.NOAM
brecny@globetek.com

2653. 50 MHz SSB transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: dgordon@osiris.gb.nrao.edu
Message-ID: <4lkgft$gop@solitaire.cv.nrao.edu>
Source record: 105918

What would be a good pair of 50 MHz SSB transistors to use with a supply voltage of 13.6 VDC? I have found that the MRF454's and 421's goes to 30 MHz, but cannot find any up to 50 MHz (6m) in the same configuation. I am looking for an output of 140-180 watts with a drive power of 8-10 watts.

(In another words, I would like to replace the 454's in order to get it up to 6m SSB).

Thanks for the help. Please email me with your reply. I am not on the newsgroups much.

-- David - KB4LCI
dgordon@nrao.edu

2654. BIG 4pin sockets FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: centrak@en.com
Message-ID: <4lka78$g4j@antares.en.com>
Source record: 105919

Gentlemen,
I have recently aquired 45 ceramic 4pin mogul base as used by
211 etc manufactured by Johnson. These are N.O.S. in excellent
condition. Useable for vintage construction project or a great way to
display xmtr jugs. $8 a piece
TNX
Mark A. Foltarz
KA4JVY

2655. Re: 2 Watt Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4lka4j$5bg@newsbf02.news.aol.com>
Source record: 105920

In article <Pine.LNX.3.90.960423113633.4360B-100000@tsquare.com>, Russell Chandler <rhchan@tsquare.com> writes:

>Could someone point to a source for
>2 Watt, 5% Tolerence, Carbon Composistion
>resistors.
>
>

Make sure they are carbon comps! To my knowlege, only A-B still makes them and they are special order. At least in manufacturing quantities.

73 Tom

2656. Re: Diff between Tx and Rx Crystals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4lkd96$ja9@clam.niwa.cri.nz>
Source record: 105921

jmccarty@sun1307.spd.dsccc.com (Mike McCarty) wrote:
...
>used with a frequency multiplier circuit. I didn't think that crystals
>intended for frequency multiplication were marked with the multiplied
>frequency.

They can do. Even worse: some RX xtals even have the actual RX
frequency stamped on them, which incorporates the IF...

Wilbert, ZL2BSJ.

2657. Re: Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: Mark Pettigrew <m.w.pettigrew@shu.ac.uk>
Message-ID: <317EB16D.1EB@shu.ac.uk>
Source record: 105922

Tom Bruhns wrote:
>
> Well, one thing you could do is create the image you want and
> transfer it to 3M's INT ("Image 'n Transfer") film to create
> a dry-transfer image of just what you want. Seems like a
> rather convoluted way to do it, but it would get around the
> problem you mention.
>

Could you give a bit more detail of the INT film, Tom?

Thanks!

Mark
G0WLR

2658. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4llj40$msl@hpcvsnz.cv.hp.com>
Source record: 105923

Joe Mack (mack@ncifcrf.gov) wrote:
: In article <4lg7bv$vkb@msunews.cl.msu.edu> flegler@pilot.msu.edu (Stanley L. Flegler) writes:
: >Does anyone know the RF insulating properties of Delrin? Is it terrible
: >or comparable with other materials such Teflon, polyethylene, etc? Any
: >input would be appreciated. Stan Flegler K8RPA, flegler@pilot.msu.edu

: Not sure what you mean here. Delrin doesn't insulate from RF
: at all. RF goes straight through it, which is why it is used
: , similary for teflon etc

I think the question is something like, "How hot does it get when RF goes through it?" -- that is, what is its dissipation factor? Teflon, polystyrene and polyethelene are all quite low, but most other plastics are worse; Nylon is pretty bad.

Anyone have recommendations for good plastics to use in antenna projects? Tough, strong and low-loss... sometimes you need pieces that will be under tension, and not just in compression. Nice to be able to make fiberglass-reinforced moulded plastic pieces from low-loss plastics, but that's probably beyond the abilities of most garage shops.

--
Cheers,
Tom
tomb@lsid.hp.com

2659. Re: Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <317E4665.DE6@rcru.rl.ac.uk>
Source record: 105924

Steve Clements wrote:
>
> When I wanted to make a nice front panel for some of my kit, I used a

snip

>
> Then application of the nice fonts you can get in Letraset (rub down
> lettering) these days for the text.
>
> A cellulose clear laquer to protect the lettering , several layers will
> finish the job.
>
> I've used this on gear I take /P contesting, and doesn't seem to wear
> off
> at all.
>

I have used this method, but be careful not to apply the clear laquer too thickly in one go or the leteraset will start to break up. As I found out early on.

Another possibility is to cover the panel with some stick on laminate or vinyl. A realy simple way for smaller (under A4) panels is to prepare the lettering on a wordprocessor and print it onto an OHP slide, back to front if possible. Stick this onto a painted panel. Similar results can be obtained by using paper with a clear OHP slide in front, or if you want a "frosted" effect with a cut up A4 plastic paper holder in front.

With a colour inkjet printer and the expensive glossy paper you can make some really impressive panel fronts for about a pound each.

Rear panels, I do with a permanent marker pen. Simple and if you make a mistake it cleans off with alcohol (propanol or surgical spirit).

Remember, it is what is inside that counts, not how pretty the front is.

Mike

2660. Re: Anodizing Front Panels?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4llk35$msl@hpcvsnz.cv.hp.com>
Source record: 105925

Rex Hebert (hebert@linknet.net) wrote:
: I've always wondered ...
: How does Anodizing work? Whats the process?
: I imagine it to be something like electroplating.
: Can it be done at home for small project front panels?
: Does it only work with aluminum?

Anodizing is oxidizing under power. Chemical oxidation always occurs at the anode in any electrochemical cell. The panel is made the anode in a bath that's normally chromic or sulphuric acid, with proprietary additives in commercial operations, I believe. After anodizing an aluminum piece, there is a layer of "porous" aluminum oxide on the surface. Typically it's 1/2 to 3 thousandths of an inch thick. After anodizing, it's optionally dyed some color (again with proprietary dyes) and sealed, to "close up the pores". Anodizing is only done on metals that form a tight, insoluble oxide: mainly aluminum and titanium.

CAN it be done at home for small projects?? Yes. Do you really _want_ to do it?? Probably not! Unfortunately, anodizing places usually have a minimum billing, like $50 or $100. If you just have one panel to do, you might be able to cajole or bribe them into doing it as a sample for you. If you insist on doing it at home, your local library should have, or be able to get, a book on metal finishing that will cover the basics of anodizing.

Some personal experience: alloys do make a difference. The Anadite shop in Tucson recommended that I use 2024-T3 to get a good, deep black. They were right. But when I had to change anodizing shops when I moved, I found that it was _very_ hard to find a shop that could do a good job on 2024-T3! Panels came back all pitted--looked terrible. Ended up having to _ship_ them to Anadite to get a good job.

--
Cheers,
Tom
tomb@lsid.hp.com

2661. Re: Pinout for MRF966

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: ccurtis@avionics.ITt.COM
Message-ID: <317E5951@avint4.avionics.itt.com>
Source record: 105926

Date: Mon, 22 Apr 1996 14:49:43 GMT
From: crispest@netcom.com (Chris Hinkle)
Subject: Pinout for MRF966

Help, need pinout for mrf966. any help appreciated.

N7UJU, Chris in Gilbert, AZ.

My search through a Motorola database turns up nothing on this number.

Chuck, N2UCN

2662. Press-n-peel???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: ka0gkc@hamlink.mn.org
Message-ID: <830340771.AA06130@hamlink.mn.org>
Source record: 105927

What is Press-N-Peel?? Is this a similiar film to the meadow lake
stuff? Is it the same with just another name? If it is different how
does it compare and where can I purchase some?

73 de Claton Cadmus, KA0GKC

```
---------------------------------------------------------------
| FIDOnet= Claton Cadmus 1:282/100 |
| INTERnet= Claton.Cadmus@hamlink.mn.org |
| PACKETnet= KA0GKC@WB0GDB.#STP.MN.USA.NA |
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

If anything I have written makes any cents, I claim copyright!
* SLMR 2.1a * HAMFEST n 1.The act of sneaking stuff into the basement.

2663. Re: 50 MHz SSB transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-24 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8303628078101@humnet.humberc.on.ca>
Source record: 105928

> What would be a good pair of 50 MHz SSB transistors to use with a
> supply voltage of 13.6 VDC? I have found that the MRF454's and 421's
> goes to 30 MHz, but cannot find any up to 50 MHz (6m) in the same
> configuation. I am looking for an output of 140-180 watts with a drive
> power of 8-10 watts.
>
> (In another words, I would like to replace the 454's in order to
> get it up to 6m SSB).
>
> Thanks for the help. Please email me with your reply. I am not on the
> newsgroups much.
>
> -- David - KB4LCI
> dgordon@nrao.edu
>

I've built several single transistor amps using the MRF492 for 6 meters.
It is rated for 70 watts, 11db gain for 12v at 50 MHz. An amp is cheap
and easy to build in this configuration.
You could try using 2 MRF492's in a push-pull arrangement for close to
your desired output. I haven't tried this as I'm quite happy with the
70 to 80 watts that I get out of my single xistor unit and doubling
the power only represents 3db gain !
I once thought about using an old 11 meter amplifier on 6m by replacing
the push-pull MRF454's with the 492's but the cores used for the
impedance matching transformers are not rated to 50 MHz and will likely
saturate if you try it. You would probably have to play around with
different cores to obtain sucessful results.

Regards !
Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

2664. Re: Pinout for MRF966

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <DqE6BH.EK5@cix.compulink.co.uk>
Source record: 105792

what about MRF 646?

2665. Re: Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4lmk7m$fau@cc.iu.net>
Source record: 105793

In <4lm0mn$2js@hpcvsnz.cv.hp.com>, tomb@lsid.hp.com (Tom Bruhns) writes:
>: Could you give a bit more detail of the INT film, Tom?
>
>I'm not sure 3M still make it. It is/was like sheets of solid black
>dry transfer material. You expose it through a line negative to
>intense light and develop it with special INT developer, which washes
>away the black where the film wasn't exposed to light. The result is dry
>transfer material with whatever line pattern you want: lettering,
>logos, block diagrams, smiley faces, Celtic lace patterns, whatever.
>Cheers,
>Tom
>tomb@lsid.hp.com

had some of that as samples. there was a polyester base and metal base versions. make up your 1:1 artwork, overlay the material, run it through the exposure area of your blueprint machine on high exposure time and then develop with the chemicals.

was neat for prototyping, but i haven't seen it advertised in quite a while...of course the blueprint machine's been sitting out in the corral for a few years now and nobody's missed it yet. (once we had b-size laser printers, we almost never had to make "blue" prints again...i suspect the same is true just about everywhere where CAD has made inroads...)

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

2666. FS: Electronic leftovers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: chane@cse.ucsc.edu
Message-ID: <4lmop1$hvi@darkstar.UCSC.EDU>
Source record: 105794
Cross-posted to:
rec.radio.amateur.misc,rec.radio.swap,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space

```
Hi all..

I have some treasures for sale that I just can't
haul around with me anymore...

The prices are subject to negotiation :)
Best offer takes it..

--------------------------------------
COMPUTER EQUIPMENT
--------------------------------------

Televideo TVI-925 terminal $20

--------------------------------------
ELECTRONICS GOODIES
--------------------------------------

Western Union Telefax Transceivers $20/pair
Model 6500-A, proprietary protocol
interesting little beasties...

Tektronix Oscilloscope $50
Model RM545B, with 1A1 Dual Trace module
Good condition, 19" rack mountable, weighs about 75#s

--chane@cse.ucsc.edu
```

2667. Re: Anodizing Front Panels?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4lmut0$k4u@crash.microserve.net>
Source record: 105795

tomb@lsid.hp.com (Tom Bruhns) wrote:

>But when I had to change anodizing shops when I moved, I found
>that it was _very_ hard to find a shop that could do a good job on
>2024-T3! Panels came back all pitted--looked terrible. Ended up
>having to _ship_ them to Anadite to get a good job.

Black is the most difficult color to apply evenly. Less adept
shops can usually apply other (lighter) colors without problems.

73,
Jack WB3U

2668. Re: Pinout for MRF966

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ln97v$rrb@nadine.teleport.com>
Source record: 105796

crispest@netcom.com (Chris Hinkle):
>Subject: Pinout for MRF966
>
> Help, need pinout for mrf966. any help appreciated.

It's an N-Channel Dual-Gate GaAs FET, Motorola case 317-01, style 1.

The data book where I found it (Motorola RF Device Data, 1991) doesn't show the pinout for style 1 of case 317-01, just styles 2 and 3. The '92 Motorola Master Selection Guide also shows only styles 2 and 3. Maybe someone out there has an older data book or selection guide which shows style 1.

Roy Lewallen, W7EL

2669. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ln87v$rrb@nadine.teleport.com>
Source record: 105797

>In article <4lg7bv$vkb@msunews.cl.msu.edu> flegler@pilot.msu.edu
>(Stanley L. Flegler) writes:
>Does anyone know the RF insulating properties of Delrin? Is it
>terrible
>or comparable with other materials such Teflon, polyethylene, etc?

Neither. Teflon, polyethylene (PE), polystyrene, and it appears, polypropylene, are quite a bit better than just about all other common plastics. Delrin, a trade name for a group of acetyl resins by Dupont, isn't as good, but it's still pretty respectable and better than most, at HF at least. The 59th Ed. of the Handbook of Chemistry and Physics gives a dissipation factor for acetyl resin at 1 MHz of 0.004. Compare this with PE at <0.0005, rigid PVC at 0.006-0.02, ABS 0.007-0.015, and Nylon 0.04. So it should be suitable for any but the most critical applications unless it has some obnoxious property like being hygroscopic. Note that the dissipation factor could vary quite a bit with the particular type of Delrin -- I only have information for the generic resin. The dielectric constant of 3.7 at 1 MHz is moderate, lower than some plastics but higher than PE or Teflon. This is a measure of how much capacitance it would add to nearby objects. A solid piece of Delrin would be markedly inferior to PE or Teflon for a coil form, since the increased capacitance would lower the effective inductance and hence lower the Q. I doubt you'd see much difference if the coil were wound on a tube of the material, though.

I don't know what happens to the dissipation factor of Delrin at higher frequencies. The microwave oven test will give you an idea of its performance at UHF and above. PE and Teflon (particularly Teflon) remain very good even at very high frequencies.

Roy Lewallen, W7EL

2670. Repeater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: anon-remailer@utopia.hacktic.nl
Message-ID: <4ln4jg$ju6@utopia.hacktic.nl>
Source record: 105798

```
Your message here.
I would like to make repeater by using 2 HTs, can anybody tell
me how to hook them up? What duplexer do I need?
Can I add an autopatch & PL?
* I'll be using DJ-580T radios. Thank you.
```

2671. Re: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: Mark Pettigrew <m.w.pettigrew@shu.ac.uk>
Message-ID: <317FB90F.414A@shu.ac.uk>
Source record: 105799

Ricky Scott wrote:
>
> Im looking for a RS232 to TTL converter that I could use with my ICOM 735
> to control its functions. Anyone have a quick and dirty Schematic or an
> article I could Find (No Commercial Boxes please).

Don't have an answer as you ask, but there is a posting to the
rec.radio.amateur.equipment newsgroup from Tony Salvador, N5GPI, pointing
to the FT-736R CAT section on his page. He says that the unit is usable
on all rigs that require a RS-232 to TTL level converter to control
the rig. Kits include all connectors needed for connection to Kenwood,
Yaesu or Icom rigs and as well as others.

http://www.gcr1.com/n5gpi/

Mark
G0WLR

2672. Re: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: Mark Pettigrew <m.w.pettigrew@shu.ac.uk>
Message-ID: <317FB94E.5CC1@shu.ac.uk>
Source record: 105800

Ricky Scott wrote:
>
> Im looking for a RS232 to TTL converter that I could use with my ICOM 735
> to control its functions. Anyone have a quick and dirty Schematic or an
> article I could Find (No Commercial Boxes please).

Don't have an answer as you ask, but there is a posting to the
rec.radio.amateur.equipment newsgroup from Tony Salvador, N5GPI, pointing
to the FT-736R CAT section on his page. He says that the unit is usable
on all rigs that require a RS-232 to TTL level converter to control
the rig. Kits include all connectors needed for connection to Kenwood,
Yaesu or Icom rigs and as well as others.

http://www.gcr1.com/n5gpi/

2673. Re: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: Mark Pettigrew <m.w.pettigrew@shu.ac.uk>
Message-ID: <317FB907.4BF7@shu.ac.uk>
Source record: 105801

Ricky Scott wrote:
>
> Im looking for a RS232 to TTL converter that I could use with my ICOM 735
> to control its functions. Anyone have a quick and dirty Schematic or an
> article I could Find (No Commercial Boxes please).

Don't have an answer as you ask, but there is a posting to the
rec.radio.amateur.equipment newsgroup from Tony Salvador, N5GPI, pointing
to the FT-736R CAT section on his page. He says that the unit is usable
on all rigs that require a RS-232 to TTL level converter to control
the rig. Kits include all connectors needed for connection to Kenwood,
Yaesu or Icom rigs and as well as others.

http://www.gcr1.com/n5gpi/

Mark
G0WLR

2674. Re: Pinout for MRF966

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: rtw@fuwutai.att.com
Message-ID: <4lnpr2$lrp@nntpa.cb.att.com>
Source record: 105802

In article <crispestDq9qIv.D4v@netcom.com>, crispest@netcom.com says...
>
> Help, need pinout for mrf966. any help appreciated.
>
>N7UJU, Chris in Gilbert, AZ.

Here is the pinout for the MRF966: looking at the top of the device (the side with the printing on it), the leg which is longer than the others is the drain. Clockwise from this leg you have source, gate 1, and gate 2.

Rob WB8WQA

2675. Re: Anodizing Front Panels?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4lnqh8$k4u@service2.uky.edu>
Source record: 105803

In article <317D67D2.4A44@linknet.net>, Rex Hebert <hebert@linknet.net> says:
>
>I've always wondered ...
> How does Anodizing work? Whats the process?
> I imagine it to be something like electroplating.
> Can it be done at home for small project front panels?
> Does it only work with aluminum?
>
> Is there a FAQ that addresses this?
> Thanks
>
>
>
> Rex Hebert
>
> TECH TOYS!
> Microcontroller Solutions
> Lafayette, Louisiana
>
> hebert@linknet.net
Sometime in the last 30 years(it was back when they had the small format),
Popular Electronics ran an arical on elctroplating and anodzing. While it
has been a long time ago, I still have a Bud-box that I dyed and anodized.
I used some blue Ritz dye, and the anodizing proccess used lye and I think
it used a dc power supply(something like 12v at 1 amp). If I get a chance,
I will try to check out the enginering library here at the University of
Knetucky, but that might well take a month or more. You can anodize
aluminum at home, but I just can not remember all the details. Maybe some
kind soul out there can check there own library and post the results.
The Bud-box still looks quite nice.

2676. Re: FM Band Code Practice XMITTER- Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: designer@clark.net
Message-ID: <4lnqrl$r10@clarknet.clark.net>
Source record: 105804

Chris.Boone@106-4267.woodybbs.com (Chris Boone) wrote:

>Well Ramsey makes a FM xmtr for about 29 bucks...not xtalled controlled but at
>FM BC freqs, you really dont need to worry too much....

>You will have to inject a 1Khz toneinto the TX audio line inputs....
>You could use the AC wiring as the antenna (using caps of say .01 or .01 in
>series with the AC lead to the antenna out on the TX...I did that once with an
>old RS FM mic and it covered the neighborhood)....once it hits a xfmr it wont
>be going anywhere!

hmmm can you tell me a it more...
I may be missing something but it seems a bit dangerous...
which 'lead' do you connect to on the outlet..
can normal receivers pick it up or do you need to connect the
receivers to the ac power lines as well...

Wireless intercoms that use the AC lines for their connection... can
they be used in a simular manner if people attach a receiver to the ac
lines?

>73
>Chris
>WB5ITT

>GL on the upgrade!

>--
>|Fidonet: Chris Boone 1:106/4267
>|Internet: Chris.Boone@106-4267.woodybbs.com
>|
>| Standard disclaimer: The views of this user are strictly his own.

marc
N3WEU

2677. Re: Need info: So Cal surplus/electronics/ham shops

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: hh357@aol.com
Message-ID: <4lnuh4$968@newsbf02.news.aol.com>
Source record: 105805

Sorry, I don't have any "secret" spots, but the TRW HAM swap meet is this Saturday 7-11 am. Aviation blvd and Marine (El Segundo or Torrance)

2678. Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: dave.formilan@hobbs.com
Message-ID: <8BF528A.0028001B54.uuout@hobbs.com>
Source record: 105806

Does anyone a nifty circuit for a phone in-use indicator. The indicator can be LED, neon or whatever. I just need something to light at each of my phones that would tell the would-be phone user that the phone line is being used.

I lose more connections to the Internet when either my wife or daughters picks up the phone and says sorry.

I sure someone must have solved this problem without major rewining or adding a dedicated line.

Thanks,

Dave

OLXWin 1.00a MSI - Connecting The World (tm)

.....ooooo0OOOOo http://www.intac.com/~cono
__,-----. ---+_________#_ The Roy Hobbs BBS sysop@hobbs.com
|________| |__|__________} Node 1: 201-641-7307
ooooo oo ~ ooO-O-O-O == oo\ Node 2: 201-641-3126

2679. Computer Control For Your Rig !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <4lo4dg$9q6@tetsuo.communique.net>
Source record: 105807

f you are thinking about using you PC to control
you ham rig check out my page and the FT-736R CAT
section. The unit shown is usable on all rigs that
require a RS-232 to TTL level converter to control
the rig. Available for Kenwood, Yaesu or Icom rigs
and as well as others.

Check it out ...

http://www.gcr1.com/n5gpi/

73,
N5GPI

2680. Re: Anyone have Amidon phone number?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: bowman@montana.com
Message-ID: <4lo1cv$7jc@maw.montana.com>
Source record: 105808

In article <1996Apr22.224410.26541@galileo.cc.rochester.edu>,
BILLY@urhep.pas.rochester.edu (Bill VanRemmen) says:
>
>Does anyone have the phone number, address or 'net address of Amidon
>Associates?

it was:
PO Box 956
Torrance, CA 90508
310-763-5770

but i think they move around a bit.

2681. Want Mods for the Alinco DR-610T

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: "Steve Fuller, KB5FIP" <rswb30@email.sps.mot.com>
Message-ID: <317FA402.1F22@email.sps.mot.com>
Source record: 105809
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Does anyone know what the mods are for the Alinco DR-610T?

Steve Fuller
KB5FIP
email address: rswb30@email.sps.mot.com
Bus. phone: 512-891-3333
home phone: 512-328-0309

2682. Re: Repeater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4lo5gm$ccv@hpcvsnz.cv.hp.com>
Source record: 105810

Anonymous (anon-remailer@utopia.hacktic.nl) wrote:
: Your message here.
: I would like to make repeater by using 2 HTs, can anybody tell
: me how to hook them up? What duplexer do I need?
: Can I add an autopatch & PL?
: * I'll be using DJ-580T radios. Thank you.

Gee, from an anonymous remailer?? Think you could be a little
more open about just who you are and what you are trying to do?

--
Cheers,
Tom
tomb@lsid.hp.com

2683. Re: CTCSS tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <317FDF5B.5D8D@tir.com>
Source record: 105811

A board for encode only starts around 30 bux and the help is still
available. They also have rock solid warranty policies!

Bill Cromwell

2684. Re: Anodizing Front Panels?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr25.162912.5839@ke4zv.atl.ga.us>
Source record: 105812

In article <4llk35$msl@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:
>Rex Hebert (hebert@linknet.net) wrote:
>: I've always wondered ...
>: How does Anodizing work? Whats the process?
>: I imagine it to be something like electroplating.
>: Can it be done at home for small project front panels?
>: Does it only work with aluminum?
>
>Anodizing is oxidizing under power. Chemical oxidation always occurs at
>the anode in any electrochemical cell. The panel is made the anode in
>a bath that's normally chromic or sulphuric acid, with proprietary
>additives in commercial operations, I believe. After anodizing an
>aluminum piece, there is a layer of "porous" aluminum oxide on the surface.
>Typically it's 1/2 to 3 thousandths of an inch thick. After anodizing,
>it's optionally dyed some color (again with proprietary dyes) and sealed,
>to "close up the pores". Anodizing is only done on metals that form a
>tight, insoluble oxide: mainly aluminum and titanium.
>
>_CAN_ it be done at home for small projects?? Yes. Do you really
>_want_ to do it?? Probably not! Unfortunately, anodizing places
>usually have a minimum billing, like $50 or $100. If you just have
>one panel to do, you might be able to cajole or bribe them into doing
>it as a sample for you. If you insist on doing it at home, your local
>library should have, or be able to get, a book on metal finishing that will
>cover the basics of anodizing.
>
>Some personal experience: alloys do make a difference. The Anadite shop
>in Tucson recommended that I use 2024-T3 to get a good, deep black. They
>were right. But when I had to change anodizing shops when I moved, I found
>that it was _very_ hard to find a shop that could do a good job on 2024-T3!
>Panels came back all pitted--looked terrible. Ended up having to _ship_
>them to Anadite to get a good job.

The correct current density is very important to achieve a consistent
anodized surface. An adjustable constant current source is required. You
want about 25 mA per square cm of panel surface (exact current density
and time varies with alloy, experiment).

For home use, RIT dye will work to color the panels. Use a hot (but
not boiling, about 140F) solution. Dip until you have the color you
want, then boil the panel at a rolling boil in clean water for about
10 minutes to seal the pores of the aluminum oxide layer.

Gary
--

Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2685. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <317FDD6D.288B@tir.com>
Source record: 105813

Of course... the same thing works well with a color ink jet printer. Be careful of handling so as not to smear the ink.

Bill Cromwell

2686. Re: Repeater

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: Mark Mandelkern <kn5s@lascruces.com>
Message-ID: <4lofgm$3vn@chile.lascruces.com>
Source record: 105814

QEX, Feb. 1996, has an article about making a repeater from two HTs.

73, Mark KN5S

--
Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

2687. Saturn 6 tuning - HELP!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: darryl.linkow@grinder.com
Message-ID: <8BF5277.01A70009F4.uuout@grinder.com>
Source record: 105815

Hello all and thanks for reading this. I just acquired an old Saturn 6 antenna and am having a difficult time getting the SWR down below 2.5 to 1. I am using the MFJ-259 analyzer. I am just curious if perhaps part of the antenna is missing? There are two screws attached to a piece of phenolic board. I have attached the shield and center conductor of some RG-58 coax to these screws as the feedpoint. I am just curious if perhaps there is a tuning device (other than the capacitor plate adjustment) or a balun that should be connected to these screws on the phenolic board that might be missing? Also, might anyone have an instruction sheet or manual that came with the antenna that I might get a copy of? Any help would be appreciated.
73, Darryl KE6IHA

---
* OLX 2.2 * Darryl Linkow (818)346-5278 9 am - 5 pm PDT

2688. Seeking Dead Yaesu FNB-31 Battery

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: sgw@bigsur.eng.sun.com
Message-ID: <4log78$b3u@engnews1.Eng.Sun.COM>
Source record: 105816
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.swap

I am looking for a dead FNB31 battery for a Yease FT-51R. I am willing to pay for the shipping and give the person a few dollars for the trouble of packing it up. I want to use it as a dummy battery in the PA10 Mobile Charger, it will just be conducting the 12V DC for me.

Also if anyone has any info on a "Ear Mike" I would be very inerested in hearing about them. I need one for noisy conditions (convertable car).

Drop me an email and we can work out the details.

Saul Wold
KF6CYE

2689. Re: Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: donrm@sr.hp.com
Message-ID: <4loi46$l46@canyon.sr.hp.com>
Source record: 105817

DAVE.FORMILAN (dave.formilan@hobbs.com) wrote:
> Does anyone a nifty circuit for a phone in-use indicator. The indicator

Check out the Radio Shack "In-Use-Indicator"; catalog # 12-108, $12.95;
better yet take a look at the R/S "Voice/Data Guard", catalog # 43-107,
$9.99. You can't build it cheaper.

Don Montgomery
donrm@sr.hp.com

2690. HAM Equipment Available

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: Ted Spitzmiller <ths@lanl.gov>
Message-ID: <317FDD3F.167EB0E7@lanl.gov>
Source record: 105818

An elderly gentleman recently passed away and left his wife with
a whole shop full of a wide vcariety of HAM equipment. She would
like to have someone in the New Mexico area (or farther away if you
can travel) give her a token price for his equipment. She has no idea
what it is worth (and neither do I) but she would like someone to
make her an honest offer for whatever they would like have, and
perhaps tell her what might simply be junk so that she can
get rid of it without feeling like she is thowing away something
that might be useful to someone.

She is in Albuquerque.

Please call me, Ted at (505) 867-6824 evenings for details.

Thanks a bunch.

Ted

2691. *Problem wiring CAT to IC725*

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: Pete <100743.2465@CompuServe.COM>
Message-ID: <4lovrrnav1@mhade.production.compuserve.com>
Source record: 105819

Hi all!
Can anyone tell me how to wire up a RS232-TTL converter
to my IC725

I have the following connections out of my converter:

CTS, RTS, TXD, RXD, GND.

where do I connect these on my radio?

Peter

2692. CW Oscillitar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <589.6688T835T830@nycmetro.com>
Source record: 105820

Howdy folks, I just built a CW practice Oscillator usint the LM555 timer IC as it's basis. Works Great but I'm wondering if I can use it with my Icom IC-215 instead of buying an Electronic Keyer. The IC-215 I have has an input marked keyer. Any idea's? Thanx folks

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2693. Icom IC-215 for Marine use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <579.6688T841T453@nycmetro.com>
Source record: 105821

Yup it's me again with another question. Anyone know if it's possible to use
the Icom IC-215 to Tx/Rx on the Marine Bands? If no does anyone know of a mod
to allow this? Thanx folks
Hoping that it's simply a matter of installing Crystals but doubt it :-(

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2694. FS: HF-SSB Selective Call

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: gleizero@gate.net
Message-ID: <gleizero.17.00170212@gate.net>
Source record: 105822

HF-SSB Selective Call Units for sale:

- Reliable operation under severe noise conditions;
- Ack-Back and Busy modes;
- Easy installation;
- Compatible with all HF radios;
- Microprocessor Controlled;
- Brand new in the box.

$99.00 each

Gustavo D. Leizerovich
gleizero@gate.net

2695. Re: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-25 00:00:00 UTC
From: cj@hth.com
Message-ID: <317fcc57.0@news.buller.se>
Source record: 105823

kf7qz@bcstec.ca.boeing.com (Ricky Scott) wrote:

>Im looking for a RS232 to TTL converter that I could use with my ICOM 735
>to control its functions. Anyone have a quick and dirty Schematic or an
>article I could Find (No Commercial Boxes please).

Take a look at MAX232 from Maxim, it's an IC but only needs four 0.1uF
caps and +5 VDC to run. There are several other models of RS232 to TTL
but this one is popular...

Regards,

/Christer

-=-=-=

2696. Re: All tube class D AM TX any tricks. Any ideas regarding implementation.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4lqjb8$4c8@newsbf02.news.aol.com>
Source record: 105729

In article <4lqfgm$h9p@kirin.wwa.com>, (Gary) turtle@wwa.com writes:

>>>>>
>Well Bob I don't know Tom is talking about but, the only seccess I've
>seen for class D is in audio amplifiers. If I remember right they pulse
the
>finals at 30 to 60 Khz and then modulate them.
>
>
> I hope this helps a little
> "73" Gary KF9CM
>
>

Bob,
Gary pointed out an easy system, because switching by-products are easy to
filter.

You'd better be building a single band transmitter if you are going to PWM
the PA. Spurious products at the switching rate that appear. They will
need to be trapped or filtered out, and a normal amateur type tank sure
won't do that!

What are you after, high PA efficiency or just eliminating the
transformer?

73 Tom

2697. SMD relacement for Amidon coil

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: Greg Lohstroh <glohst1@grfn.org>
Message-ID: <Pine.SOL.3.91.960426083041.12403A-100000@freenet.grfn.org>
Source record: 105730

I don't know if any of you saw the "Micronaunt" project in the April 96 edition of CQ mag. But,I would like to make this project using SMDs.The problem is that I don't know if the Amidon coil which is 12 turns of #28 on an Amidon T-50-2 core can fit in the project box I have intended (REAL small!) this coil should be .720 uH.Can I use a surface mount coil here?
Thanks.
Greg

2698. Re: Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: Michael Blankenship <mblank@topeka>
Message-ID: <Pine.SOL.3.91.960426133224.14279C-100000@topeka>
Source record: 105731

Just connect your outside phone line to the "line" connector of your
modem and the rest of the house connects to the "phone" connector on your
modem card. That way, one cannot get a "live" connection whenever your
computer is on-line.

On Thu, 25 Apr 1996, DAVE.FORMILAN wrote:

> Does anyone a nifty circuit for a phone in-use indicator. The indicator
> can be LED, neon or whatever. I just need something to light at each of
> my phones that would tell the would-be phone user that the phone line is
> being used.
>
> I lose more connections to the Internet when either my wife or daughters
> picks up the phone and says sorry.
>
> I sure someone must have solved this problem without major rewining or
> adding a dedicated line.
>
> Thanks,
>
> Dave
> ---
> OLXWin 1.00a MSI - Connecting The World (tm)
>
> .....ooooo0OOOOo http://www.intac.com/~cono
> __,-----. ---+_________#_ The Roy Hobbs BBS sysop@hobbs.com
> |________| |__|__________} Node 1: 201-641-7307
> ooooo oo ~ ooO-O-O-O == oo\ Node 2: 201-641-3126
>
>
>

2699. Re: 50 MHz SSB transistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <4lql3f$ghh@mrnews.mro.dec.com>
Source record: 105732

In article <8303628078101@humnet.humberc.on.ca>, hduff@humnet.humberc.on.ca (Hugh Duff) writes...
>I once thought about using an old 11 meter amplifier on 6m by replacing
>the push-pull MRF454's with the 492's but the cores used for the
>impedance matching transformers are not rated to 50 MHz and will likely
>saturate if you try it. You would probably have to play around with
>different cores to obtain sucessful results.

A little off subject:

I'm currently thinking about trying the exact opposite - pulling the 100W amp from an old Motorola 50 MHz cop radio that I got for $25, and converting it to an HF amp. This should have less problems with transformers, and some negative feedback should be able to stablize the gain. Has anyone tried this? I'm sure there's plenty of details that would need filling in...

Another thought is to try to convert it into a 6m SSB/CW rig...

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@est.enet.dec.com
==========

2700. Conv the SB-620 to 455 kc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: Cal Eustaquio <ceustaqu@farad.elee.calpoly.edu>
Message-ID: <Pine.ULT.3.91.960426115444.18704C-100000@farad.elee.calpoly.edu>
Source record: 105733

Has anyone successfully converted the Heathkit SB-620 Hamscan from some other IF to 455 kcs? I'm considering this as a major projct utilizing easily obtainable parts. But if anyone has any adds they'd like to state, I'd be interested. Cal, N6KYR.

2701. Spread Spectrum?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: crscasio@pixi.com
Message-ID: <4lrigi$m7m@rigel.pixi.com>
Source record: 105734

There was a post regarding a kit to build a SS radio. This kit was developed by someone at the Naval Academy, I believe.

Does anyone have this information? Has anyone built the unit?

Thanks, Lawrence

2702. Fluorinert?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: crscasio@pixi.com
Message-ID: <4lrink$m7m@rigel.pixi.com>
Source record: 105735

I am looking for Fluorinert. It's almost as hard as finding relative grease, or a fantail spanner.

Fluorinert is used in Mil-Spec equiment to draw heat away from components and transfer this heat to the heat sink. Fluorinert comes in gel bags of various sizes. No it is not the same as "Blue Ice". "Blue Ice" performs a different function, it is used to retain heat.

Thanks, Lawrence

2703. Re: HAM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: NewsBoy! <103123.1142@CompuServe.COM>
Message-ID: <4lrl3n$rs2$2@mhadf.production.compuserve.com>
Source record: 105736

This was really damn weird....

--
"I am personally responsible for the agony of Christ"
"I am personally responsible for the agony of Christ"
"I am personally responsible for the agony of Christ"
"I am personally responsible for the agony of Christ"

2704. Re: Re homebrew front panels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <1970.6688T1162T2120@nycmetro.com>
Source record: 105737

>Tom Bruhns wrote:
>>
>> Well, one thing you could do is create the image you want and
>> transfer it to 3M's INT ("Image 'n Transfer") film to create
>> a dry-transfer image of just what you want. Seems like a
>> rather convoluted way to do it, but it would get around the
>> problem you mention.
>>

>Could you give a bit more detail of the INT film, Tom?

>Thanks!

>Mark
>G0WLR
if you are also into Photography you might look into a product called Liquid Light. It's a Liquid Photo Emulsion which you can apply to almost ANY surface expose as if it were photo paper develop and fix and have a permenant image after applying clear Laquer. I know "How do I get the negative?" easy you can do it several ways such as Drawing it and taking a Photograph of it then use that negative. If you have no Enlarger still no problem if you have a good Laser Printer, 300 DPI is ok tho the newer 600 DPI printers are better. Get yerself some Transparency Film made for Laser Printers and draw up the display in yer fave DTP prg then print it on the Transparancy film scaled 1 to 1 then simply do a "Contact" print by placing the Transparency film "Negative" over the panel which has already been treated with the liquid light emulsion. Turn on a Standard Incandescent Bulb on then off quickly and develop and fix. Voila'! Works great, I've done it, a bit grainy with my old 300 DPI Laser printer but for Text and a logo should be fine. Same Company also makes Silk Screening supplies as well. Company name is Rockland Colloid Corp in Piermont NY 10968 but any well stocked Photo shop should carry it. B&W developing is VERY easy too in a case like this.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2705. Re: Aviation Converter for Automobile ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: mrpeters@atnet.net
Message-ID: <4lqrtt$1hm@news.atnet.net>
Source record: 105738

I>>About ten years ago I purchased a self-powered converter which picked up
>>aviation band signals and ran them through my car stereo.
>>Does anyone know of plans/kits for such a unit. It couldn't have been
>>that hard to do... cost was around $30 in 1984.
>
>check out Ramsey, 1-800-4 HOBBY KITS. i don't know if they have a
>converter, but they do have a aircraft receiver for 30 bucks, solder
>and bandaids extra.

I've seen it--this wasn't a stand alone receiver, it was hooked into the
car radio...really nice for sitting at the airport and watching the
touch and goes. I have some independant radios, but I always seem to
leave them at home when I need them... this unit was really good and
a permament installation. Thanks anyway, it was appreciated!

2706. Want: Cushcraft DX-120 2 Meter Antenna All or Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: larrys73@txdirect.net
Message-ID: <3180f425.3161402@news>
Source record: 105739

I am in need of parts and pieces of the CushCraft DX-120
2 meter antenna. Would like to find some complete antennas
still in the box, but can use parts and pieces, let me know
what you have. Thanks!
Larry WA5NTF

2707. The alfa tango newgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: Sieb.Wichers@shadow.utero.cuci.nl
Message-ID: <a4d_9604281900@utero.cuci.nl>
Source record: 105740

```
. . o Hi All o o .

Has anyone know the name of the alfa tango newsgroup

Groupo radio italia alfa tango !!

Thanx-Sieb Wichers
L8ter Mortician!

O O
o o
Oo.[ The GraveYard +31-599-513335 8777 Hz/year ].oO
[ Mortician@beastbbs.iwg.nl ]
o.[ Mortician@shadow.utero.cuci.nl ].o
oO Oo
O O
--
UTERO InterNet Access
```

2708. Computer Control for Your Rig !!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <4m34gb$14j4@tetsuo.communique.net>
Source record: 105741

If you are thinking about using you PC to control
you ham rig check out my page and the FT-736R CAT
section. The unit shown is usable on all rigs that
require a RS-232 to TTL level converter to control
the rig. Available for Kenwood, Yaesu or Icom rigs
and as well as others.

Check it out ...

http://www.gcr1.com/n5gpi/

73,
N5GPI

2709. Re: Direct-modulated AM with solid state final?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: kdooks@atcon.com
Message-ID: <4lp7dv$kdh@thor.atcon.com>
Source record: 105824

Grant Youngman <nq5t@gte.net> wrote:

>> > Monty Wilson <mwilson@bangate.compaq.com> wrote:
>> >
>> >>What I want to know is: has anyone managed to take a late-
>> >>model solid state transceiver (like mine) and modify it to
>> >>run collector- modulated AM? Other than finding or winding
>> >>a modulation transformer, it would seem relatively simple
>> >>to modify a solid-state rig like this, and you could run
>> >>a 40W carrier, which on 10m would be plenty.

>Unless you're just into experimenting, I can't imagine why you would want to do this at
>all.

>You can purchase a decent AM transmitter for a few hundred dollars or less, and spend
>your time restoring it and getting it going.

>Or, you can run most modern rigs on AM and still have an excellent signal. Most sandbox
>radios sound bad on AM not because they "just do", but because they are improperly
>adjusted -- usually too much carrier output (leaving insufficient headroom to develop
>the required PEP at about 4 times the carrier power without distortion in the finals)
>and WAAAAY to much audio drive. There are many fine sounding legal limit AM stations
>operating in the AM windows which start life as modern transceivers, properly adjusted.
>And they are indistinguishable from the plate modulated guys (like me).

>Grant/NQ5T
Hmm, a solid state variant of Heising plate mod. (choke mod), sounds
like an interesting if pointless experement. oo.
Kevin

2710. Hot News from FCC on April 25th at Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4lpk5v$elp@news.accessone.com>
Source record: 105825
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

Hot news just in from the FCC. In an April 25th press release,
the FCC says it may proposed to allow higher powered
unlicensed devices in the shared 5.7 GHz Amateur band. You can
read more about it at Ham Radio Online - its free! And no ads either!

So far in April we've published these featured stories:

FCC May Allow Higher Power to Unlicensed Devices
FCC Eliminates Morse Code For Cargo Ships
SKYWARN HAMS SAVE LIVES DURING ZEBULON TORNADO
VE/VEC Conflict of Interest Rules Change<Picture>
Hyakutake Comet Radio Bounce Test Results
Ten Tec 6 Meter Transverter Kit
Path Quality of Packet Nodes
FCC Amends Amateur Rules
Making Your Own Solar Observations
Background to Spread Spectrum Communications
Primer on Spread Spectrum Communications
Advice to the Perplexed Shortwave Listener Newbie
Morse Code in Popular Music? -- With audio

Plus, Amateur Radio newsletters from throughout the world,
real-time radio propagation reports worldwide, real-time
disaster communications situation reports, broadcast and SWL
news and lots more!

And of course, our complete library of articles going back into
1995 and lots more neat stuff!

Stop and by and enjoy! Lots of new stories coming up in May!

73, Ed, KF7VY
Ham Radio Online
http://www.accessone.com/~vbook/hronline.htm

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

2711. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: "John D. Farr" <johnfarr@ro.com>
Message-ID: <31806BC5.3ECF@ro.com>
Source record: 105826

Stanley L. Flegler wrote:
>
> Does anyone know the RF insulating properties of Delrin? Is it terrible
> or comparable with other materials such Teflon, polyethylene, etc? Any
> input would be appreciated. Stan Flegler K8RPA, flegler@pilot.msu.edu

According to the AIN Plastics Catalog, 1993, the electrical properties of DelrinAF
are as follows:

Dielectric Strength, short time, in air @ 73 deg F 400 v/mil
Volume Resistivity @ 73 F 3*10^16 Ohm-cm
Dielectric Constant
1 KHz 3.1
1 MHz 3.1
Water absorption, 24 hr immersion 0.2%
Saturation 0.72%

The AIA plastics catalog is worth having. Their phone number is 1-800-431-2451.

Hope this helps.

73, John KC4ZXX

2712. Re: Icom IC-215 for Marine use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: "George J. Molnar" <gmolnar@interealm.com>
Message-ID: <318069E8.EAD@interealm.com>
Source record: 105827

SARUMAN wrote:
>
> Yup it's me again with another question. Anyone know if it's possible to use
> the Icom IC-215 to Tx/Rx on the Marine Bands? If no does anyone know of a mod
> to allow this? Thanx folks
> Hoping that it's simply a matter of installing Crystals but doubt it

Don't know if there is a mod or not, but it should be stressed that
any equipment not designed for, and type-accepted, for marine use
is ILLEGAL to operate there. Emergency use aside, it's just not allowed.
Marine gear has very tight frequency stability and accuracy
specifications, specific power levels, and spectral purity requirements.

--
George J. Molnar
Highlands Ranch, Colorado
Amateur Radio: KF2T@N0QCU.#NECO.CO.USA.NOAM
http://www.interealm.com/p/gmolnar/index.html

2713. Re: All tube class D AM TX any tricks. Any ideas regarding implementation.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-26 00:00:00 UTC
From: turtle@wwa.com
Message-ID: <4lqfgm$h9p@kirin.wwa.com>
Source record: 105828

> rmd@ka4ybr.netmha.com (Bob Duckworth) writes:
> I've been thinking of building an AM TX for 160m and 80m and
> not having any suitable transformers for modulating the plate
> thought that just maybe I could do it by pulse width modulation.
>
> Here's the tricky part, I want to do this with tubes.
> Any suggestions?
>
> I'd like to keep this fairly simple as far as the power supply goes
> so it's gonna be 807 or 1625 or 6146 type final.
>
> WHat sort of tube would make a good modulator for class D?
> Any suggestions for turning the audio from the mike into PWM via tubes?
>
> -bob
> WB4MNF
>
> --
> Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
> bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
> Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
> Fax or email your list for a fast cash offer. Watch for listserv catalog.
>
>>>>
Well Bob I don't know Tom is talking about but, the only seccess I've
seen for class D is in audio amplifiers. If I remember right they pulse the
finals at 30 to 60 Khz and then modulate them.

I hope this helps a little
"73" Gary KF9CM

2714. Re: FM Band Code Practice XMITTER- Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: bowman@montana.com
Message-ID: <4lrrv1$2av@maw.montana.com>
Source record: 105742

In article <577_9604230641@woodybbs.com>, Chris.Boone@106-4267.woodybbs.com (Chris Boone) says:
>You will have to inject a 1Khz toneinto the TX audio line inputs....
>You could use the AC wiring as the antenna (using caps of say .01 or .01 in
>series with the AC lead to the antenna out on the TX...I did that once with an
>old RS FM mic and it covered the neighborhood)....once it hits a xfmr it wont
>be going anywhere!

you might be able to just float the signal on the AC wiring, if this
is just in one building. some intercomms used to do that, and it worked
reasonably well for voice, so CW shouldn't be a prob.

2715. WTB: Chokes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: Mark Mandelkern <kn5s@lascruces.com>
Message-ID: <4ls7bp$v9@chile.lascruces.com>
Source record: 105743

Wanted to buy:

Ohmite P-300 parasitic chokes (for xmtrs).

These were made (I think) in the 40's or 50's.

73, Mark KN5S

--
Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

2716. Re: Fluorinert?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: mark@reson.com
Message-ID: <4lsopn$i3@daffy.sb.west.net>
Source record: 105744

crscasio@pixi.com (Lawrence Koga) wrote:

>I am looking for Fluorinert. It's almost as hard as finding relative
>grease, or a fantail spanner.

>Fluorinert is used in Mil-Spec equiment to draw heat away from components
>and transfer this heat to the heat sink. Fluorinert comes in gel bags of
>various sizes. No it is not the same as "Blue Ice". "Blue Ice" performs
>a different function, it is used to retain heat.

3M makes Fluorinert. In fact, fluorinert is trademarked by 3M. Be
sure your wearing your seatbelt when they tell you the price! The
substance is expensive! The bags of flourinert made by 3M are called
"Liquid Heatsink". They work quit well, but again they are expensive.

3M Industrial Chemical Products Division
(612) 733-3735 (literature request)

-
Mark Chun | mark@reson.com | Santa Barbara, CA

2717. FS:HV PS DIODES

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: Spencer Petri <spetri@e-tex.com>
Message-ID: <4lt9il$kbh@e-tex.com>
Source record: 105745

These are great. 25KV and I tested them for 1.38 Amps for 4 hours. These babies can take it. $10 each or build a bridge for $35. You ship.

73 de Pete WA5JCI

2718. Space Institute via the internet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: gssi@gssi.edu
Message-ID: <318241BE.7DA3@gssi.edu>
Source record: 105746
Cross-posted to: rec.arts.startrek.tech,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,school.subjects.science,sci.astro,sci.astro.amateur,sci.astro.fits,sci.astro.planetarium,sci.cryonics,sci.energy,sci.energy.hydrogen,sci.engr,sci.engr.biomed,sci.engr.chem,

```
Galileo Space Sciences Institute is now offering courses via the
internet! Check us out at http://www.gssi.edu. Or for introductory
info, send e-mail to gssi-info@mars.gssi.edu.
```

2719. Protection for power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: jiboulej@ce-csce.GRics.qc.CA
Message-ID: <199604271759.NAA01637@rtsq.grics.qc.ca>
Source record: 105747

Hello all of you,
I just finish my new power supply. Is is a simple thing but...it work and it is mine :-).
I may have a small problem. The transformer is a bit hight (about 50V) so there is about 75 volts on the capacitor. So the 3055 seem upset when there is a short!!!
The power supply work very fine and I can get from 1 to 50 volts from it.
Is there any method to protect the main transistor when there is a short at the output? I dont want to use fuse but I guess there is some electronic way to shut down the power supply when the current is to hight.
Thanks for any advice.
Jean
E-mail: jiboulej@ce-csce.grics.qc.ca

PS The power suplly is standard: transformer, 4 diodes, capacitors, reference for voltage and serie transistor.

2720. Re: CTCSS tone generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: alf@kaiwan.com
Message-ID: <s-SWnCIg1WkC068yn@kaiwan.com>
Source record: 105748

In article <dkelly-2304961857120001@max1-167.hiwaay.net>,
dkelly@hiwaay.net (David Kelly) wrote:
> In article <4lihp7$8ld@nntpa.cb.att.com>, rtw@fuwutai.att.com (Rob
> Whitacre) wrote:
>
> > In article <Pine.BSI.3.91.960419213917.1980A-100000@fig.leba.net>,
> > andrewz@leba.net says...
> > >
> > >Does anyone know how to make a simple CTCSS tone generator to connect to
> > >the audio input line of a 2M crystal rig? Is there a chip to generate
> > >these tones? Thank you.
> > >
> > >Andrew
> > >
> > >---
> > >andrewz@leba.net Compu$erve 73307,2755 Amateur Radio AA3AK
> > >---
> > >
> > >
> >
> > The Comm Spec boards work great, but if you are really interested in building
> > your own, check out a company called MX-COM, INC., 800-638-5577.For example,
> > the MX315 will do what you want.
>
> The MX315 is a very nice part and its under $5 in modest volume. Last time
> I heard MX-COM would sell low volume to those who are interested.
>
> Also Ramsey makes at least one CTCSS kit, the one I'm thinking of uses the
> MX165 (or was it the MX365?) which encodes and decodes. Don't know how
> much the kit was.
>
> 73,
> --
> David Kelly N4HHE, n4hhe@amsat.org, dkelly@hiwaay.net
> ==
> To invent, you need a good imagination and a pile of junk.
> - Thomas Edison

Or if you are the experimental type, just build an audio oscillator
of the right frequency for the CTCSS tone required. Look in the
library for the circuitry for an audio oscillator, which is no
more than an op-amp or two and a few resistors and capacitors.
The CTCSS frequency should be easy to find. Just tune for the
right frequency and experiment. Good luck.

73,

Alfred Lee alf@kaiwan.com
KE6KGV 'The answer is (e^i&#65533; + 1) ? "No" : "Yes"'
Remembering: KE6LTH, KD6HNU, March 22, 1996

2721. Support space- earn income

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: john_house@onet.com
Message-ID: <4ltkfk$6c@saturn.gssi.edu>
Source record: 105749
Cross-posted to: rec.arts.startrek.tech,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,school.subjects.science,sci.astro,sci.astro.amateur,sci.astro.fits,sci.astro.planetarium,sci.cryonics,sci.energy,sci.energy.hydrogen,sci.engr,sci.engr.biomed,sci.engr.chem,

Support the Space Program while you earn an income! For more info,
send e-mail to: spaceinfo-html@mars.ouspadev.com (HTML version) or
spaceinfo-text@mars.ouspadev.com (text version).

2722. Dial Belts for HP Instruments

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4lttb6$eif@nntp.Stanford.EDU>
Source record: 105750

I am looking for a source for the dial belt material used by HP on some of their older instruments like the 8555 analyzer plug-in and 8620 sweeper etc. I've had some dial belts break recently. Even if replacement belt/pointer assemblies are still available from HP, they are probably very expensive. I would like to get a small roll of this belt material with sprocket holes. Does anyone know who the vendor is and what the part number might be?

Thanks

Steve Muther
WF6R

2723. Req: Circuit Plans for 1.7 - 2.6 GHz Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: Kieth Swaney <kieths@ix.netcom.com>
Message-ID: <31823F38.6387@ix.netcom.com>
Source record: 105751

Dear Sirs,

Several years ago, I heard of a few homespunners throwing
together a Folger's coffie can and a simple circuit with an RF modulator
set at TV Ch. 3 and being able to tune into links between live news
broadcasts and their home stations. Granted, in the 1.7 - 2.6 Ghz range
one would have to be pretty line of site, however, it does seem possible.
I am quite interested in this kind of project as an
adventure/hobby of sorts, but can't find where to start. A search into
Yahoo turned up empty, and Alta Vista had only one site selling a pre-fab
'kit'. No adventure in a pre-constructed disassembled kit!
If you have any info or leads, please e-mail:
kieths@ix.netcom.com

Thanks!

-Kieth

2724. Code practice tapes and oscilator needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: Bill Johnson <s965544@slvaxa.umsl.edu>
Message-ID: <4lu460$ad0@news.umsl.edu>
Source record: 105752

I am interseted in learning Morse code and becoming a ham. I'm disabled and on a fixed income, so I cannot afford to pay much for them, but I would like to find a set of instruction tapes, as well as a practice oscilator and key. If anyone has these items that they would be willing to part with at a reasonable price, please let me know. I would really appreciate it.

Thanks,
Bill
s965544@slvaxa.umsl.edu

2725. WTB: 0 - 140 pf Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: keymastr@i1.net
Message-ID: <4luc9n$sos@news1.i1.net>
Source record: 105753

Hi Guys!

My antique radio club is trying to put together an inexpensive regenerative radio kit for the new members as a first construction project. We have all the parts except the 0 - 140pf variable tuning condenser. We would like to buy up to 20 of these but will settle for 10 to get the new guys building right away. Antique Electronic Supply lists this part in their catalog but they have been out of stock for quite some time. If you have one or more of these for sale, please let me know via e-mail at keymastr@i1.net.

Thank You!

Derek Cohn
WB0TUA

2726. Re: Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: alf@kaiwan.com
Message-ID: <TwdWnClg1CwU068yn@kaiwan.com>
Source record: 105754

In article <Pine.SOL.3.91.960426133224.14279C-100000@topeka>,
Michael Blankenship <mblank@topeka> wrote:
>
> On Thu, 25 Apr 1996, DAVE.FORMILAN wrote:
>
> > Does anyone a nifty circuit for a phone in-use indicator. The indicator
> > can be LED, neon or whatever. I just need something to light at each of
> > my phones that would tell the would-be phone user that the phone line is
> > being used.
> >
> > I lose more connections to the Internet when either my wife or daughters
> > picks up the phone and says sorry.
> >
> > I sure someone must have solved this problem without major rewining or
> > adding a dedicated line.
> >

I my office I just connect a volt meter across the phone lines. If it
says ~48 V, line's available; less than 10 V, busy! Simple.

73,

Alfred Lee alf@kaiwan.com
KE6KGV 'The answer is (e^i&#65533; + 1) ? "No" : "Yes"'
Remembering: KE6LTH, KD6HNU, March 22, 1996

2727. NEED FAST CASH? READ AND TRY THIS!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-27 00:00:00 UTC
From: yoon@csugrad.cs.vt.edu
Message-ID: <4luo5v$p6l@csugrad.cs.vt.edu>
Source record: 105755
Cross-posted to: alt.binaries.sounds.music,comp.databases.ms-access,comp.sys.mac.scitech,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.space,sci.nonlinear,soc.culture.austria,alt.sports.baseball.sf-giants,alt.fan.laurie.anderson,alt.asian-movies,alt.sports.baseball.cinci-reds,alt.sports.baseball.sd-padres,alt.sports.baseball.mn-twins,comp.databases.pick,comp.lang.sather,comp.os.ms-windows.nt.misc,soc.culture.venezuela

Hello! I've got some awesome news that I think you need to take two minutes to read if you have ever thought "How could I make some serious cash in a hurry???" , or been in serious debt, ready to do almost anything to get the money needed to pay off those bill collectors. So grab a snack, a warm cup of coffee, or a glass of your favorite beverage, get comfortable and listen to this interesting, exciting find!

Let me start by saying that I FINALLY FOUND IT! That's right! I found it! And I HATE GET RICH QUICK SCHEMES!! I hate those schemes like multi-level marketing, mail-order schemes, envelope stuffing scams, 900 number scams... the list goes on forever. I have tried every darn get rich quick scheme out there over the past 12 years. I somehow got on mailing lists for people looking to make money (more like 'desperate stupid people who will try anything for money!'). Well, when I was a teenager, these claims to 'get me rich quick' sounded irresistible! I would shell out $14.95 here, $29.95 there, $24.95 here, and another $49.95 there. I had maxed out my new Circuit City Card AND my Visa...I was desperate for money!! So, I gave them all a chance but failed at every one of them! Maybe they worked for some people, but not for me. Eventually, I just tossed that JUNK MAIL in the trash when I got the mail. I recognized it right away. I can smell a money scam from a mile away these days, SO I THOUGHT.... I thought I could sniff out a scam easily. WAS I WRONG!! ....I LOVE THE INTERNET!!!

I was scanning thru a NEWSGROUP and saw an article stating to GET CASH FAST!! I thought..."Here on the Internet?? Well, I'll just have to see what schemes could possibly be on the internet." The article described a way to MAIL A ONE DOLLAR BILL TO ONLY FIVE PEOPLE AND MAKE $50, 0000 IN CASH WITHIN 4 WEEKS! Well, the more I thought about it, the more I became very curious. Why? Because of the way it worked AND BECAUSE IT WOULD ONLY COST ME FIVE DOLLARS (AND FIVE STAMPS), THAT'S ALL I EVER PAY....EVER!!

Ok, so the $50,000 in cash was maybe an tough amount to reach, but it was possible. I knew that I could at least get a return of $1,000 or so. So I did it!! As per the instructions in the article, I mailed out ('snail mail' for you e-mail fanatics) a single dollar bill to each of the five people on the list that was contained in the article. I included a small note, with the dollar, that stated "Please Add Me

To Your List." I then removed the first position name of the five names listed and moved everyone up one position, and I put my name in position five of the list. This is how the money starts rolling in! I then took this revised article now with my name on the list and REPOSTED IT ON AS MANY NEWSGROUPS AND LOCAL BULLETIN BOARD MESSAGE AREAS THAT I KNEW. I then waited to watch the money come in...prepared to maybe receive about $1000 to $1500 in cash or so.... But what a welcome surprise when those envelopes kept coming in!!! I knew what they were as soon as I saw the return addresses from people all over the world -Most from the U.S., but some from Canada, even some from Australia! I tell you, THAT WAS EXCITING!! So how much did I get in total return? $1000? $5000? Not even!!! I received a total of $23,343!!! I couldn't believe it!!

I now have a brand new black Acura Integra to speak for, due to this!! Now after almost 8 months, I am ready to do it again!!! So maybe it was possible to get $50,000 in cash, I don't know, but IT COMPLETELY DEPENDS ON YOU, THE INDIVIDUAL! You must follow through and repost this article everywhere you can think of! The more postings you achieve will determine how much cash will arrive in your very own mailbox!! It's just too easy to pass up!!!

Let's review the reasons why you should do this: The only cost factors are for the five stamps, the 5 envelopes and the 5 one dollar bills that you send out to the listed names by snail mail (US Postal Service Mail). Then just simply repost the article (WITH YOUR NAME ADDED) to all the newsgroups and local BBS's you can. Then sit back and, (ironically), enjoy walking (you can run if you like! :o) down your driveway to your mailbox and scoop up your rewards!! We all have five dollars to put into such an easy effortless investment with SPECTACULAR REALISTIC RETURNS OF $15,000 to $25,000 in about 3-5 weeks! So HOLD OFF ON THOSE LOTTERY NUMBERS FOR TODAY, EAT AT HOME TONIGHT INSTEAD OF TAKEOUT FROM McDONALDS AND INVEST FIVE

DOLLARS IN THIS AMAZING MONEY MAKING SYSTEM NOW!!! YOU CAN'T LOSE!!

So how do you do it exactly, you ask? I have carefully provided the most detailed, yet straightforward instructions on how to easily get this underway and get your cash on its way. SO, ARE YOU READY TO MAKE SOME CASH!!!?? HERE WE GO!!!

*** THE LIST OF NAMES IS AT THE END OF THIS ARTICLE. ***

OK, Read this carefully. Get a printout of this information, if you like, so you can easily refer to it as often as needed.

INSTRUCTIONS:

1. Take a sheet of paper and write on it the following: "Please add my name to your list". This creates a service out of this money making system and thus making it completely legal. You are not just randomly sending a dollar to someone, you are paying one dollar for a legitimate service. Make sure you include your name and address. I

assure you that, again, this is completely legal! For a neat little twist, also write what slot their name was in: "You were in slot 3", Just to add a little fun! This is all about having fun and making money at the same time!

2. Now fold this sheet of paper around a dollar bill ,(no checks or money orders), and put them into an envelope and send it on its way to the five people listed. The folding of the paper around the bill will insure its arrival to its recipient. THIS STEP IS IMPORTANT!!

3. Now listen carefully, here's where you get YOUR MONEY COMING TO YOUR MAILBOX. Look at the list of five people; remove the first name from position one and move everyone on the list up slot one on the list. Position 2 name will now move to the position 1 slot , position 3 will now become position 2, 4 will be 3, 5 will be 4. Now put your name, address, zipcode AND COUNTRY in position 5, the bottom position on the list.

4. Now upload this updated file to as many newsgroups and local bulletin boards' message areas & file section as possible. Give a catchy description of the file so it gets noticed!! Such as: "NEED FAST CASH?, HERE IT IS!" or "NEED CASH TO PAY OFF YOUR DEBTS??", etc. And the more uploads, the more money you will make, and of course, the more money the others on the list will make too. LET'S ALL TAKE CARE OF EACH OTHER BY BEING HONEST AND BY PUTTING FORTH 120 PERCENT INTO THIS PROFITABLE & AMAZING SYSTEM!!! You'll reap the benefits, believe me!!! Set a goal for the number of total uploads you'll post, such as 15-20 postings or more! Always have a goal in mind!!!
If you can UUE encode the file when uploading, that will make it easier for the people to receive it and have it downloaded to their hard drive. That way they get a copy of the article right on their computer without hassles of viewing and then saving the article from the File menu. Don't alter the file type, leave it as an MS-DOS Text file. The best test is to be able to view this file using Microsoft's Notepad for Windows 3.x or WordPad for Windows '95. If the margins look right without making the screen slide left or right when at the ends of the sentences, you're in business!

5. If you need help uploading, simply ask the sysop of the BBS, or "POST" a message on a newsgroup asking how to post a file, tell them who your Internet provider is and PEOPLE WILL ALWAYS BE GLAD TO HELP. I would try to describe how to do it but there are simply too many internet software packages with slightly different yet relatively simple ways to post or upload a file. Just ask for help or look in the help section for 'posting'. I do know that for GNN, you simply select 'POST' then enter a catchy description under the subject box, choose 'ATTACH', selecting 'UUE' and NOT 'TXT', then
choose 'Browse' to go look for the file. Find your text file CASH.TXT and click on it and choose 'OK'. Place a one line statement in the main body section of the message post screen. Something like "Download this to read how to get cash arriving in your mailbox with no

paybacks!" or whatever. Just make sure it represents its true feasibility, NOT something like..."Get one million dollars flooding in your mailbox in two days!" You'll never get ANY responses!

6. And this is the step I like. JUST SIT BACK AND ENJOY LIFE BECAUSE

CASH IS ON ITS THE WAY!! Expect to see a little money start to trickle in around 2 weeks, but AT ABOUT WEEKS 3 & 4, THE MONEY STORM WILL HIT YOUR MAILBOX!! All you have to do is take it out of the mailbox and try not to scream too loud (outside anyway) when you realize YOU HIT THE BIG TIME AT LAST!!

7. So go PAY OFF YOUR BILLS AND DEBTS and then get that something special you always wanted or buy that special person in your life (or the one you want in your life) a gift they'll never forget. ENJOY LIFE!

8. Now when you get low on this money supply, simply re-activate this file again; Reposting it in the old places where you originally posted and possibly some new places you now know of. Don't ever lose this file, always keep a copy at your reach for when you ever need cash. THIS IS AN INCREDIBLE TOOL THAT YOU CAN ALWAYS RE-USE TIME AND TIME AGAIN WHEN CASH IS NEEDED!

9. (This step added by Charles Reiley). Hello, This is exciting isn't it?! While I'm on the list, just add a note saying "Please include extra money tips" with your name & E-MAIL address, and I will (FOR FREE) send you some neat methods to increase the money you will receive with this plan.
Why?... Why not? I'm not a selfish jerk...I like helping out others. E-mail just makes it a touch easier and cheaper, too! After I drop off the list, I can no longer offer you this advice, obviously, but maybe someone else who gets my tips will offer and simply replace my name on this step number 9. Good luck and give this plan your all, it will definitely pay off!
Like Mike said, HAVE FUN WITH IT!!!

****
*
****
*
THE NAMES LIST THE NAMES LIST THE NAMES LIST
****
*
HONESTY IS WHAT MAKES THIS PROGRAM SUCCESSFUL!!!

1. Paul Dittrich
1509 Trigg Lane
Wichita Falls, TX 76306
USA

2. Mike Sova
P.O. Box 381

Coldwater ON Canada
L0K 1E0

3. George Juniel
5000 Western Ave. #2100
Knoxville. TN 37921
USA

4. Joel Schmidt
7809 Shadowhill Way
Cincinnati, OH 45242
USA

5. Yo S. Yoon
1224 University City Blvd #D40
Blacksburg, VA 24060
USA

****
*

NOTE:
Try to keep a list of everyone that sends you a dollar and always keep an eye on the local postings of this file...Just to make sure that everyone is playing the game fairly. You know where your name should be.....

*** AGAIN, HONESTY IS THE BEST THING WE HAVE GOING FOR US ON THIS PLAN.

-Mike Dotson, Boulder, CO

2728. Re: Req: Circuit Plans for 1.7 - 2.6 GHz Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4lueol$i64@nntp.Stanford.EDU>
Source record: 105756

In article <31823F38.6387@ix.netcom.com> Kieth Swaney <kieths@ix.netcom.com> writes:
>Dear Sirs,
>
> Several years ago, I heard of a few homespunners throwing
>together a Folger's coffie can and a simple circuit with an RF modulator
>set at TV Ch. 3 and being able to tune into links between live news
>broadcasts and their home stations. Granted, in the 1.7 - 2.6 Ghz range
>one would have to be pretty line of site, however, it does seem possible.
> I am quite interested in this kind of project as an
>adventure/hobby of sorts, but can't find where to start. A search into
>Yahoo turned up empty, and Alta Vista had only one site selling a pre-fab
>'kit'. No adventure in a pre-constructed disassembled kit!
> If you have any info or leads, please e-mail:
>kieths@ix.netcom.com
>
>Thanks!
>
>-Kieth

I have thrown such a device together myself made from amplifier and mixer modules I pick up at the local ham flea market. ENG (from the trucks) and remote picup video from live events is all FM conforming to standards outlined in the FMTV section of older ARRL Handbooks. I would look at guys like Philips Tech electronics in AZ or HF technologies In IL for commercially made downconverters and FM video demods.

For my demod, I just use a modified satellite receiver. A couple of years ago, when Stanford University (just a few blocks away) hosted the world cup games, I was able to comfortably watch the video comming directly from the blimp above the stadium.

If I can answer any more questions, feel free to contact me via email.

Steve Muther, WF6R
stevem@w6yx.stanford.edu

2729. Re: FM Band Code Practice XMITTER- Help!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: bowman@montana.com
Message-ID: <4lum0p$9qa@maw.montana.com>
Source record: 105757

In article <4lnqrl$r10@clarknet.clark.net>, designer@clark.net (Marcum N. Nance III) says:
>>You could use the AC wiring as the antenna (using caps of say .01 or .01 in
>I may be missing something but it seems a bit dangerous...

not really. the cap is isolating you from the ac, since it presents
a high impedance at 60 hz.

>Wireless intercoms that use the AC lines for their connection... can
>they be used in a simular manner if people attach a receiver to the ac
>lines?

yes, if i understand your question. that is how they work. there have
been a number of schemes for putting a low frequency (30 khz, say) signal
on the ac lines for switching or intercomm purposes. the biggest problem,
if you are looking for reliability, is all the other stuff, like fork
lift battery chargers, etc, that are also putting a signal on the lines.
but for casual morse code practice, it shouldn't be a problem.

2730. Low-power (transverter) output of TS-520?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: bruces@mpd.tandem.com
Message-ID: <4lujja$emq@news.mpd.tandem.com>
Source record: 105758
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.space

Looking for the specs on the TS-520 when it's hooked up to a TV-502 2M transverter. I've successfully modified the transverter for receive on a TS-850, but there's nothing in the TV502 manual about drive input levels. THe 850 puts out 0-10dBm. Any info would be appreciated.

Thanks

--
| Bruce Sawtelle AX.25 : W3NJ @ W5SYT.TX.USA.NOAM |
| Tandem Computers, Inc. Internet : bruces @ mpd.tandem.com |
| 14231 Tandem Blvd. USENET : halley!bruces |
| Austin, Tx 78728 TCP/IP : 44.76.1.42 (w3nj.ampr.org) |

2731. HW-8 VFO Capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: frankb2686@aol.com
Message-ID: <4lv3po$i8b@newsbf02.news.aol.com>
Source record: 105759

Anyone know of a source to replace the broken VFO tuning capacitor in my HW-8? I've already tried Heath. I'd be willing to buy a broken or damaged HW-8
with a good capacitor if anyone has one.

73 Frank WD6AGS

2732. 4-1000A Grid Driven

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: turnerde@ccnet.com
Message-ID: <4lv4j5$j73@ccnet2.ccnet.com>
Source record: 105760

I'm considering an amplifier using the old 4-1000A, mostly because I have two of them. One of the disadvatages of these tubes is lower efficiency at plate potentials of 3kV and lower. Most designs use these in cathode driven configurations, probably because of circuit simplicity. I'm considering running one in a conventional grid driven mode in AB2. According to Eimac spec's a pair runs 3000 watts output with 4kV Vp, (I)idle 300mA & 1.2 A running, 500V Vscreen, -60 Vgrid and 140 Vpeak grid drive. Of course, a single would put out 1500 with half the idle and running current.

A passive input circuit has definate advantages. It requires NO tuned circuits and is very stable because everything is a low impedance to ground. Most of the time one sees this approach with Eimac external anode tubes, probably because of their lower control grid bias requirements. If one does the math for 140 peak (peak drive req'd 4-1000A in AB2), the RMS drive required with a 100 ohm passive input (not a bad match) is 138 watts. This is right in the ball park for most exciters and transcievers.

The trade-off in this approach is building screen and bias supplies, but NO input tuned circuits, input bandswitch and bifilar wound filament choke. The drive requirement is roughly the same as in the cathode driven configuration.

The question is simple. Does anyone have thoughts or experience as to this approach with this tube. Send some mail if you have thoughts.

2733. Re: Fluorinert?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: turnerde@ccnet.com
Message-ID: <4lv5v8$j73@ccnet2.ccnet.com>
Source record: 105761

>3M makes Fluorinert. In fact, fluorinert is trademarked by 3M. Be
>sure your wearing your seatbelt when they tell you the price! The
>substance is expensive! The bags of flourinert made by 3M are called
>"Liquid Heatsink". They work quit well, but again they are expensive.
>

This would make wonderful stuff for cooling water cooled tubes with
something that has very high dielectric strength and is practically an
OPEN in terms of resistivity. Wonder if a guy could buy some in small
quantities? We use some at work, and you are right, the price is heart
stopping! Its' on the order of $400 per gallon!

2734. Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: eugene.welcome@rook.wa.com
Message-ID: <713085030-960427211225@rook.wa.com>
Source record: 105762

Hi Dave, I am responding via E-Mail a solution and I didn't want to post a iffy?? off topic here. I have had some E-Mail not get through and let me know either here or return answer my E-Mail message. I can re-post it to another conference that deals with phones.

```
_ /|
\'o 0'
73, Gene, K7"EEK" !! a =(_"_)= ?? He ate my Mouse !
U
eugene.welcome@rook.wa.com
```

2735. Re: Anyone have Amidon phone number?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <830685818snz@lfheller.demon.co.uk>
Source record: 105763

In article <4lo1cv$7jc@maw.montana.com>
bowman@montana.com "robert bowman" writes:

> In article <1996Apr22.224410.26541@galileo.cc.rochester.edu>,
> BILLY@urhep.pas.rochester.edu (Bill VanRemmen) says:
> >
> >Does anyone have the phone number, address or 'net address of Amidon
> >Associates?
>
> it was:
> PO Box 956
> Torrance, CA 90508
> 310-763-5770

The '96 ARRL Handbook gives:

Amidon, Inc.
3122 Alpine Avenue
Santa Ana, CA 92704
714-850-1163

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

2736. Re: Looking for info on QRP 6 meter circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <DqKMz8.HEo@cix.compulink.co.uk>
Source record: 105764

me too...

2737. Re: *Problem wiring CAT to IC725*

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4m0cgs$p08@news.onramp.net>
Source record: 105765

```
You DON'T these are the RS-232 lines to the computer
The Radio Should use the TTL lines.

Clear to Send
Request to Send
Xmit data
Rec Data
Gnd
```

2738. Re: Code practice tapes and oscilator needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: jyazel@freenet.columbus.oh.us
Message-ID: <4m0gd7$4le@acme.freenet.columbus.oh.us>
Source record: 105766

Bill Johnson (s965544@slvaxa.umsl.edu) wrote:
: I am interseted in learning Morse code and becoming a ham. I'm disabled
: and on a fixed income, so I cannot afford to pay much for them, but I
: would like to find a set of instruction tapes, as well as a practice
: oscilator and key. If anyone has these items that they would be willing
: to part with at a reasonable price, please let me know. I would really
: appreciate it.

: Thanks,
: Bill
: s965544@slvaxa.umsl.edu

Why not use a computer program to practice with. It works very much
like tapes and the cost is reasonable.

If you can FTP, get Super Morse at:

oak.oakland.edu
/pub3/hamradio/arrl/bbs/vec filename: sm415.exe

If you need any help using FTP, email me and I will give you some
tips.

Jack, W8RAG

2739. Re: Looking for info on QRP 6 meter circuits

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <582.6692T919T826@nycmetro.com>
Source record: 105767

>me too...
CQ magazine recently had an article on 6 meter Reciever based on a Motorola IC
MC-3367(mighta been 3667) was pretty str8 forward looking. They also mentioned
in that article a previous artcle on the Transmitter. I think it was the
February issue.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2740. Re: Icom IC-215 for Marine use?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <1150.6692T919T2925@nycmetro.com>
Source record: 105768

>SARUMAN wrote:
>>
>> Yup it's me again with another question. Anyone know if it's possible to
>> use the Icom IC-215 to Tx/Rx on the Marine Bands? If no does anyone know of
>> a mod to allow this? Thanx folks Hoping that it's simply a matter of
>> installing Crystals but doubt it

>Don't know if there is a mod or not, but it should be stressed that
>any equipment not designed for, and type-accepted, for marine use
>is ILLEGAL to operate there. Emergency use aside, it's just not allowed.
>Marine gear has very tight frequency stability and accuracy
>specifications, specific power levels, and spectral purity requirements.

>--
>George J. Molnar
>Highlands Ranch, Colorado
>Amateur Radio: KF2T@N0QCU.#NECO.CO.USA.NOAM
>http://www.interealm.com/p/gmolnar/index.html

I guess that idea is a bust then. Thanx for the info.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2741. Re: HW-8 VFO Capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4m0gqs$529@news.fwi.com>
Source record: 105769

In <4lv3po$i8b@newsbf02.news.aol.com>, frankb2686@aol.com (FrankB2686) writes:
>Anyone know of a source to replace the broken VFO tuning capacitor in my
>HW-8? I've already tried Heath. I'd be willing to buy a broken or damaged
>HW-8
>with a good capacitor if anyone has one.
>
>73 Frank WD6AGS

Hi Frank,
If you have the part number, try sending a letter or call directory assistance for a place called 'surplus supply' or 'salvage supply' in Benton Harbor, Michigan. They had bought out quite a bit of Heathkit's parts inventory several years back. If your going to Dayton, they're always there. Now they sell a lot of Zenith computer stuff. Good luck.
73's WD9AHF - Jim

2742. Help ID These

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: cedgar@pacificnet.net
Message-ID: <4m140i$43v@news2.cais.com>
Source record: 105770
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

Does anyone have any info on a Mitsubushi MD003, it is a 7 pin inline package that apparently switches RF. Also I have a varian/beverly VMC-1680. It has a single SMA output and a three wire input, red ,black, grey. The wires appear to have 5K shunted by a capacitance when measured with an ohmmeter. I applied between 5 and 15 volts DC to the red and black leads but no RF out. Tnx Again, Clyde
WA6DCM

2743. Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.123.07AA5DEF@mindspring.com>
Source record: 105771

Several years ago, I believe I read an article in QST about
using ANTIFREEZE in a can-tenna instead of oil. According to the
article, this would improve the dissipation considerably; apparetnly
the water in antifreeze was not of significant leakage (no pun intended)
to change the impedance appreciably.

Well, anyway, I made my own ONE PINT cantenna last night (I cant measure
the mismatch; much less than 1.1 to 1 at 2M) but the dry rating is
a measly 8W. I would like to add some coolant; I recalled the antifreeze
article and wondered if anyone out there has tried it?

I am a little worried about how water might affect the "flame-proof"
resistors. I feel that commercial antifreeze will not rust my paint
can what with all the corrosion inhibitors and whatnot that is in there...

If I can't be convinced about antifreeze, what other options are there
for a coolant?

Engine oil?
"mineral oil" from a pharmacy?
(I would _really_ like to stay away from oil though ... it is
almost impossible to clean up!)

Thanks,
Ed

2744. R-2R networks Source?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.124.07ADD1AB@mindspring.com>
Source record: 105772

I would like to get a DIP or SIP package with matched R-2R network
inside. This lets me make a D/A converter with just a CMOS latch. Digi-key,
Mouser, etc do not seem to have them listed. Who should I try?
Thanks.
Ed

2745. fs: dps radar unit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: bwilder@reallink.com
Message-ID: <4m1j48$heo@doc.zippo.com>
Source record: 105773

be the first on your block to own one of these.

be the first on your block to own one of these...

it is a radar set used by department of public safety and other law
enforcement agencies in the late 50's early 60's.

operates on 12 volts dc, and measures speed up to 100 mph.

works and is in pretty good shape. comes in two cases. consists of a
power supply, metering unit, and a transmitting unit.

would make a VERY interesting conversation piece.

$60

bobby wb5wur
wb5wur

2746. Computer Control For Your Radio !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: tony@gcr1.com
Message-ID: <4m7v3f$kqr@tetsuo.communique.net>
Source record: 105774

If you are thinking about using you PC to control
you ham rig check out my page and the FT-736R CAT
section. The unit shown is usable on all rigs that
require a RS-232 to TTL level converter to control
the rig. Available for Kenwood, Yaesu or Icom rigs
and as well as others.

Check it out ...

http://www.gcr1.com/n5gpi/

73,
N5GPI

2747. Re: Protection for power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr28.134658.21705@ke4zv.atl.ga.us>
Source record: 105775

In article <199604271759.NAA01637@rtsq.grics.qc.ca> jiboulej@ce-csce.GRics.qc.CA writes:
>Hello all of you,
>I just finish my new power supply. Is is a simple thing but...it work and it is
>mine :-).
>I may have a small problem. The transformer is a bit hight (about 50V) so there
>is about 75 volts on the capacitor. So the 3055 seem upset when there is a
>short!!!
>The power supply work very fine and I can get from 1 to 50 volts from it.
>Is there any method to protect the main transistor when there is a short at the
>output? I dont want to use fuse but I guess there is some electronic way to shut
>down the power supply when the current is to hight.
>Thanks for any advice.
>Jean
>E-mail: jiboulej@ce-csce.grics.qc.ca
>
>PS The power suplly is standard: transformer, 4 diodes, capacitors, reference
>for voltage and serie transistor.

Ouch! 75 volts exceeds the 2N3055 emitter to collector breakdown
voltage (60 volts max), so when the output is shorted this baby
is going to go bye bye. The 2N3055 can handle 15 amps, so it
probably isn't overcurrent that gets it, it is probably overvoltage.
(The entire supply voltage is dropped across it when the output is
shorted.)

Lets see if we can fix both problems. A quick and nasty way to get
the unregulated DC down to a reasonable value is to put a resistance
in series with the *primary* of the transformer. An ordinary light
bulb can work well here. A 100 watt bulb would be about the right
size. That'll also work as a a crude overcurrent protector for the
supply.

There are more elegant methods, of course. You could use a shunt
pre-regulator to get the supply voltage down to under 60 volts.
And you could use a fractional ohm current sense resistor in the
emitter circuit of the pass transistor with a transistor connected
base-emitter across it and with its collector connected to the
pass transistor base so that it starves the pass transistor of
drive current when an overcurrent condition exists. Even more
elegant methods can be employed if you use an IC regulator to
drive the pass transistor base. But the light bulb should keep
the supply from destroying itself, and it is simple to do.
Make sure that there is always some load on the supply, a bleeder
resistor will do.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2748. Re: Req: Circuit Plans for 1.7 - 2.6 GHz Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr28.131127.21421@ke4zv.atl.ga.us>
Source record: 105776

In article <31823F38.6387@ix.netcom.com> Kieth Swaney <kieths@ix.netcom.com> writes:
>
> Several years ago, I heard of a few homespunners throwing
>together a Folger's coffie can and a simple circuit with an RF modulator
>set at TV Ch. 3 and being able to tune into links between live news
>broadcasts and their home stations. Granted, in the 1.7 - 2.6 Ghz range
>one would have to be pretty line of site, however, it does seem possible.
> I am quite interested in this kind of project as an
>adventure/hobby of sorts, but can't find where to start. A search into
>Yahoo turned up empty, and Alta Vista had only one site selling a pre-fab
>'kit'. No adventure in a pre-constructed disassembled kit!
> If you have any info or leads, please e-mail:
>kieths@ix.netcom.com

Our microwave relay transmissions are FM, so you can't just convert
them to a frequency your TV uses and watch them. You need a complete
FM receiver that decodes the video down to baseband and then remodulates
it in VSB AM for your TV. One of the game modulators will do for the
latter.

While we use NBFM (narrow for TV anyway), a TVRO receiver can be
pressed into service to receive the signals if you replace the
C band LNB with a 2 GHz LNB. The SNR won't be optimum due to the
wider IF filter used in the TVRO receiver, so you could fit a
narrower filter, or just live with the requirement for a stronger
signal. We operate in a 12.5 MHz channel while TVRO uses either
a 30 MHz or 40 MHz channel (C band or Ku band). If your TVRO
receiver has half-transponder capability, you're all set. We
use a 6.2 MHz FM subcarrier for audio, same as TVRO, so you'll
get audio this way too.

A coffee can feed can be used at 2 GHz, but better will be a
loop or disk yagi. Down East Microwave sells a suitable loop
yagi, or you can build a suitable disk yagi from a length of
all thread rod, some jam nuts, and fender washers (Nurad made
commercial antennas exactly this way, fitting them in fiberglass
tubes). Better still would be a 4 to 8 foot dish. We use all
four polarization senses from time to time, IE horizontal,
vertical, left hand circular, and right hand circular, so
a polarity switching system should be used. (A printed circuit
crossed dipole feed can be used as the driven element with
diode switched phasing lines printed on the board for polarity
switching.)

There are 12 channels in the 2 GHz band, but we only use 6 of them for remote pickups (at least here, the others are assigned to fixed relay), and those channels are shared among all the stations in the market. So there will often be signals on adjacent channels. Good filtering will be a must if your receive site is high and exposed.

We often use "bounce" shots, meaning that we use some common terrain feature in view of both the transmitter and receiver as a reflector. Often buildings are used for this purpose, but water tanks and even mountain faces can be used. What this means to you is that you may not need to be in the line of sight of the transmitter in order to receive the signals. We also often use our helicopter as a repeater, so that also lets you see things you might otherwise not be able to pick up.

You could try a simple polaplexer design, which is probably what you were thinking about with the coffee can, but the sensitivity will be poor, and results will generally be unsatisfactory. *And* much more importantly, you'll be *radiating a signal in the TV pickup band*, and that's a serious no-no. The FCC may not care anymore, but we do, and we've got the means and interest to hunt you down. Don't try this. Use a proper receiver design that prevents oscillator radiation. We don't mind if you watch, but we do mind if you interfere.

Gary
--
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534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2749. Re: Code practice tapes and oscilator needed

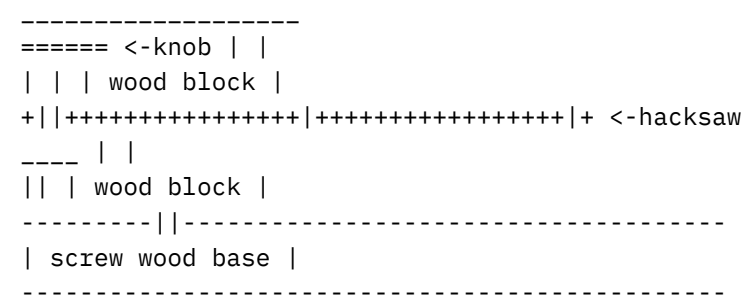
Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-28 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr28.141944.21863@ke4zv.atl.ga.us>
Source record: 105777

In article <4lu460$ad0@news.umsl.edu> Bill Johnson <s965544@slvaxa.umsl.edu> writes:
>I am interseted in learning Morse code and becoming a ham. I'm disabled
>and on a fixed income, so I cannot afford to pay much for them, but I
>would like to find a set of instruction tapes, as well as a practice
>oscilator and key. If anyone has these items that they would be willing
>to part with at a reasonable price, please let me know. I would really
>appreciate it.

Bill, since you obviously have access to a PC, one of the computer
training programs would be much better than a tape. Supermorse is
the usual favorite, and is available for downloading from many sites.
If you want tapes so you can practice away from the computer, you
can make your own using Supermorse. This has the advantage that you
can change the content of the tapes frequently. The big problem with
tapes is that you quickly memorize their content, so you want to
change the content frequently.

For a practice oscillator, the easiest thing is to use a piezo
sounder (available from Radio Shack for under $2) as the sound
source. Just key the power lead to it. Of course you could also
wire up a 555 timer as a code oscillator, but you'd need some
resistors, capacitors, and a speaker. The piezo sounder works
as is. A couple of AA cells will power it.

Now a good commercial key has gotten somewhat expensive, but
you can easily make your own from a broken length of hacksaw
blade, some pieces of wood, a few screws, and a drawer knob.
Here's one design:



Use a couple of long wood screws to fasten the two clamp blocks
down to the base, trapping the hacksaw blade between them. A
screw partially driven into the base forms one contact, the
screw holding the knob on forms the other. Before you drive the
contact screw into the base, adjust the amount of the hacksaw
blade that sticks out from the clamp blocks to get the tension
you like. Then drive the contact screw in the right place so

that it lines up with the knob screw when they are pressed
together. Hook one wire to the contact screw, the other to the
hacksaw blade. You can get the spacing you like either by
sanding down the bottom block or adjusting the height of the
contact screw.

This sort of key can be pretty if you're a craftsman, or it
can be ugly as sin, but it'll work in either case and costs
practically nothing to build. Just wire it up in series with
the piezo sounder and battery and beep away.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
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Lawrenceville, GA 30244 | |

2750. mods for IC-2400A to 9600bd ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: vk2esl@vk2djg.une.EDU.AU
Message-ID: <6025@vk2esl.ampr.org>
Source record: 105679

Can anyone help me with this.
I have an ICOM IC-2400A duel band fm tranceiver and wish to
use it with a 9600bd modem.
Has anyone accomplished high speed mods for this radio or know
where I might find the info?

Thanks heaps
Steve.

2751. Re: Delrin, insulating properties?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: Guy Fletcher <guy@mpce.mq.edu.au>
Message-ID: <318561BF.2162@mpce.mq.edu.au>
Source record: 105680

> (Stanley L. Flegler) writes:
> >>Does anyone know the RF insulating properties of Delrin? Is it
> terrible
> >>or comparable with other materials such Teflon, polyethylene, etc?
> Any
> >>input would be appreciated. Stan Flegler K8RPA,
> flegler@pilot.msu.edu
> >>
>I have thought about trying to use Delrin in close proximity to
the anode strip lines of a 2m linear amplifier (500W), for example
to support the tuning flapper in a W1SL design. Teflon is good
in the high RF field, but rather soft as a support. Nylon is too
lossy and gets very hot. Fibreglass is recommended, but nasty
to work with. Has anyone tried to use Delrin in such a situation?
The fields are much higher than around antenna feedlines.

Guy Fletcher
guy@mpce.mq.edu.au

2752. Building a voice radiolink from scratch: help!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: uc915@estud.unican.es
Message-ID: <4m2jib$aro@sci.cpd.uniovi.es>
Source record: 105681

Hello to all,
I would like to build in my free time a radiolink between two houses, about 6.000 meters far away. I am thinking on a simple FM transmitter and receiver built by myself, and directional antennas (mybe yagi). I have al ittle experience on building some circuits years ago (a 117 MHz VCO, a simple FM transmiter, ...), and now, there are some instruments (like a 2 GHz spectrum analyzer) that I can use for testing.
So, I would like to know about your (practical) experiences and opinions about that. The main problem (I think) is that there is not direct view from one point to the other: there is a little mountain in the middle, so the link must work using a difracted wave. Which is the best frecuency range to do that?

Any help will be very appreciated.
TIA.

2753. Re: 4-1000A Grid Driven

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: rdtalbert@aol.com
Message-ID: <4m2mac$jbb@newsbf02.news.aol.com>
Source record: 105682

Please don't take this subject private. This is just the sort of information for which I subscribe to this group.

Thanks,

Roy K9ER

2754. ANY HAMS OUT THERE ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: jorgegc@lander.es
Message-ID: <4m2lsb$d3o@lince.lander.es>
Source record: 105683
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hello dear friends:

I would like to know if there are any hams in this system as I haven't seen any messages.
By the way I would appreciatte to receive schemas, draws, sizes and way of construction on antennas for HF, both monobanders & multibanders, preferibly easy vertical or wire aerials.
Please send your messages and info this way or even better by post to my address (QSL 100%) :
EA5VD Francisco J. Garc�a
P.O.Box 123
E-46080 Valencia SPAIN

Or by E-mail: jorgegc@lander.es

LOOK FORWARD YOUR MESSAGES 73's

2755. W1FB's QRP book

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: A J Jeffreys <sis5322@pbs5.milton.port.ac.uk>
Message-ID: <3185508B.6FF4@pbs5.milton.port.ac.uk>
Source record: 105684

Hi
I'm just wondering if anyone has W1FB's QRP notebook. If so, please
could you list the projects in this book, as I am thinking of buying it,
but would like to know what I'm buying first!!

Thanks in advance

---- A J Jeffreys ------ sis5322@pbs5.milton.port.ac.uk ---------------

2756. WTB: Old mechanical calculators - EDAN 042913

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: phil@SANDH.COM
Message-ID: <0000265000000D4C@SANDH.COM>
Source record: 105685

I am interested in purchasing old mechanical calculators and slide rules.

I collect the old electro-mechanical "rotary" calculators that were made by Friden, Marchant, Monroe, and other manufacturers from the period of the 1900's through the late 1960's. I also collect non-electrical mechanical calculators and am especially interested in hand-held Curta brand calculators. I am not interested in adding machines that print on tape or electronic calculators.

If you have an old mechanical calculator or slide rule collecting dust in a closet, please send me an e-mail message.

Phil Sherrod (phil@sandh.com)

-- 13: usenet.rec.radio.amateur.homebrew --

2757. Re: WTB: 0 - 140 pf Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: cmoore@vegas.ch.intel.com
Message-ID: <4m3323$18ff@chnews.ch.intel.com>
Source record: 105686

In article <4luc9n$sos@news1.i1.net>, Derek Cohn <keymastr@i1.net> wrote:

>We have all the
>parts except the 0 - 140pf variable tuning condenser.

Hi Derek, try Fair Radio Sales (419)223-2196 but don't expect them
to have one with zero pf. What frequency does a zero pf cap tune?

73, Cecil, KG7BK, OOTC (not speaking for my employer)

2758. CD4538BF Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: tkayani@Legarto.Minn.Net
Message-ID: <4m38ut$obr@cobra.Minn.Net>
Source record: 105687
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics

Hello all,

I need CD4538BF in a large quantity. I have called Mouser and they only had
6 on hand and the part is now considered obsolete. Any suggestions where
I might find a ready supply?

Thanks.

--
==
Twinix Systems, Inc. - MN.
119 North Fourth Street,
Suite 508,
Minneapolis, MN 55401
Voice: 612-338-7170
Fax: 612-338-7767
e-mail: resume@twinix.com

Twinix Systems, Inc. - TX.
300 East Midway,
Suite 210
Euless, TX 76039
Voice: 817-355-5147
Fax: 817-355-5148
e-mail: dfwjobs@twinix.com
==

2759. Re: QRP project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <4m3h0i$o4t@murrow.corp.sgi.com>
Source record: 105688

Gang,

One word of warning on single tube/single transistor
and simple circuits. 99% of them will not meet the
FCC requirements for spectral purity on the output
due to lack of filtering.

You might consider finding the high dollar equipment
to measure the output.

It's your license at stake here.

Also, this may not be a problem now, but during the
next sunspot peaks you may get a citation for working
the high bands when you thought you were on 40M. :-)

Of course, you could make this a challenging project
for yourself to clean it up.

FYI

dit dit
--
Chuck Adams (K5FO CP-60) adams@sgi.com
30M 1996 Study Qs=000 States=00 Confirmed=00 DX=00

2760. Re: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: Pete Dziomba <n2mci@mhv.net>
Message-ID: <4m3ilp$eo9@news.mhv.net>
Source record: 105689

The Aug. 1991 ed. of 73 mag. has 3 different versions of RS232 to TTL
circuits... From LM324's to MAX232's... The MAX232 is way to go...
Everything in 1 package plus 5 Caps. .. KISS Keep it simple Stu
73 Pete n2mci@mhv.net

2761. 8031 microcntrlr ham apps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4m3hms$h8k@dfw-ixnews5.ix.netcom.com>
Source record: 105690

Anyone have any ham radio applications for the 80C32 / 8051
microcontroller family? I am trying to learn the 8032 and would like
some "usefull" programs to help with the teaching process.

Tim Hynde ka8ddz

2762. FS: isolation transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: galcala@ix.netcom.com
Message-ID: <4m39th$p03@dfw-ixnews7.ix.netcom.com>
Source record: 105691

I have a number of both 500VA and 2KVA isolation transformers for sale.
Both are designed for use at 120V, 60Hz. All are new. $50 each for
500VA $150 for 2KVA. Prices do not include freight from Texas.

2763. Crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: Don Quinsland <dquinsla@connix.com>
Message-ID: <4m3l22$gkb@comet.connix.com>
Source record: 105692

Does anyone have plans for an old style crystal radio, using a galena crystal and cat's whiskers?

2764. Help QRP swr meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4m3hg0$crd@dfw-ixnews8.ix.netcom.com>
Source record: 105693

I just finished the simple swr meter from the W1FB QRP book, seems to concour with the commmercial units my friends have. Since your sampling forward and reverse power can anyone tell me how to calibrate the meter to read in watts or fractions thereof?

I imagine you would measure voltage across the 50 ohm dummy but not sure if this is the complete meathod.

Tim Hynde ka8ddz

2765. Re: Code practice tapes and oscilator needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.830792538.26261.jwicklun@mycroftxxx.halcyon.com>
Source record: 105694

Not that I want to discourage you from learning Morse Code, I think
that it is still desirable. But, the No-Code technician class license
allows full access to the VHF and UHF frequencies without any code.

Many people now start with the nocode tech license, and then learn the
code and upgrade to higher license classes.

73.....KI7RH (Jay)

2766. How to modify Philips UHF TV audio from 6(UK) to 5.5MHz(Oz)?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: John Young <john@comcirc.com.au>
Message-ID: <4m2lv8$3kl@otis.netspace.net.au>
Source record: 105695

I recently arrived in Australia from the UK, together with UK standard Philips TVs and a video and I'm hoping to get them working over here. UK uses 6MHz audio, Australia has 5.5MHz (and a second audio channel at 5.75 I think). At the moment I can get video OK but the audio is not surprisingly very poor as it is right on the edge of the passband. I wonder if anyone has done this kind of mod and if it easy? I know if I purchase a local standard video it would be possible to use the SCART output from that, but I'd prefer to make full use of the equipment I have. The Philips TVs are models: 56KS3457/05T (circa 1984), and 15CE1010/05B (circa 1987). Currently I don't have circuit diagrams for either, but hope to be obtaining those by another route.

Thanks in anticipation.

John VK3JDY/G4BXN

2767. Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: clinton.peebles@saloon.bcbbs.net
Message-ID: <9604292021545844@saloon.bcbbs.net>
Source record: 105696

A couple weeks ago I heard a story on CBC radio about a wind up radio being manufactured in South Africa. Are these available in North America? I'd like to get one. Maybe get the spring and generator out of one and make a wind up QRP rig.

□
□ Clinton Peebles VE7-KNL □
□ SYSOP - Salmon Siding Saloon BBS - 604-357-9942 □
□ Internet: CPeebles@saloon.bcbbs.net □
□ Packet Radio: VE7KNL@VE7CW.#SEBC.BC.CAN.NOAM □
□□

□ QMPro 1.53 □ I can't see it, but it looks good!

2768. Tube info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: Duck 1 <ducks@earthlink.net>
Message-ID: <318490DD.50F2@earthlink.net>
Source record: 105697

Does anyone know of a good scorce for(or replacement for) 2E26 tubes?
HEEELLLLPPPPPP!

2769. Re: Professional looking front panels - how?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: smason@agt.net
Message-ID: <31851dc8.19606121@news.agt.net>
Source record: 105698

On Sun, 21 Apr 1996 10:04:50 -0400, eganger@mindspring.com (Ed Ganger) wrote:

>I reverse the bitmap before I print to a BW Laser printer on overhead
>film. This puts the markings on the BACK of the acetate(? mylar?)
>sheet. Then I mix up some clear epoxy and with a plastic spreader

I just did something similar. I'm almost done the AT-11 tuner from QST.
I did the front and rear panel layout with Corel Draw, created a mirror
image, and printed it on a transparency. then I spray painted toner side with
Krylon latex in a color close to the same as the cabinet front. It looks
pretty good, not up to my perfectionist standards, but much better than
anything else I've done.

I used Elmers spray adhesive to stick the transparency to the cabinet. Time
will tell if that was a good idea.

If I had drilled the holes a bit more accurately (my cheap drill press thing
isn't very good), and been a bit more careful with the paint (2 light coats
instead of one impatient runny coat) it would look a bit better.

The printed layout makes an excellent drill template too. Corel lets you
define the exact size of a circle, and place it in an exact location.

As a test, I tried some other spray paint I had (automotive I think) and it
dissolved the toner.

That's my first experience with trying to make a good looking project. Though
for the amount of time it's taken, I should have bought an SGC. <G>

Steve VE6STV

2770. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr29.132353.27208@ke4zv.atl.ga.us>
Source record: 105699

In article <eganger.123.07AA5DEF@mindspring.com> eganger@mindspring.com (Ed Ganger) writes:
> Several years ago, I believe I read an article in QST about
>using ANTIFREEZE in a can-tenna instead of oil. According to the
>article, this would improve the dissipation considerably; apparetnly
>the water in antifreeze was not of significant leakage (no pun intended)
>to change the impedance appreciably.
>
>Well, anyway, I made my own ONE PINT cantenna last night (I cant measure
>the mismatch; much less than 1.1 to 1 at 2M) but the dry rating is
>a measly 8W. I would like to add some coolant; I recalled the antifreeze
>article and wondered if anyone out there has tried it?
>
>I am a little worried about how water might affect the "flame-proof"
>resistors. I feel that commercial antifreeze will not rust my paint
>can what with all the corrosion inhibitors and whatnot that is in there...
>
>If I can't be convinced about antifreeze, what other options are there
>for a coolant?
>
>Engine oil?
>"mineral oil" from a pharmacy?
>(I would _really_ like to stay away from oil though ... it is
>almost impossible to clean up!)

Ed, mineral oil is usually recomended. Motor oil has a lower
flash point and antifreeze is toxic (don't spill any where pets
or children may lick it up). There are some new "green" antifreeze
compounds that are supposed to be non-toxic, but I don't know
how they would react with your resistor. We use ordinary tap water
with our high power water cooled loads, but they're designed to
use that (all ferrous parts are stainless). I can't say how your
resistor will react to water (ours are porcelain), but it sounds
like a cheap experiment, so why not just try tap water?

If you're worried about rust, paint the "paint" can first. And
if your tap water is full of minerals, use distilled water,
sold in supermarkets for steam irons.

Gary
--
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Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2771. Re: Building a voice radiolink from scratch: help!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Apr29.165842.28667@ke4zv.atl.ga.us>
Source record: 105700

In article <4m2jib$aro@sci.cpd.uniovi.es> uc915@estud.unican.es (Newpol) writes:
>Hello to all,
> I would like to build in my free time a radiolink between two houses,
>about 6.000 meters far away. I am thinking on a simple FM transmitter
>and receiver built by myself, and directional antennas (mybe yagi). I
>have al ittle experience on building some circuits years ago (a 117
>MHz VCO, a simple FM transmiter, ...), and now, there are some
>instruments (like a 2 GHz spectrum analyzer) that I can use for
>testing.
>So, I would like to know about your (practical) experiences and
>opinions about that. The main problem (I think) is that there is not
>direct view from one point to the other: there is a little mountain in
>the middle, so the link must work using a difracted wave. Which is the
>best frecuency range to do that?

The lower the better. You'll want a frequency where groundwave
propagation will allow the signal to follow the contour of the
Earth from one site to the other. In the US we have a license
free band from 160 kHz to 190 kHz with 1 watt of power allowed.
It would seem to be ideal for your situation if you are allowed
to use that frequency range in your country. Of course anything
from MW on down would be suitable. ELF transmission below 10 kHz
is unregulated here, and could be another good choice. Of course
you'll want to use a modulation other than FM at the low frequencies
since it is a bandwidth hog, and you won't have much bandwidth
to use. AM, SSB, or a digital signaling system would be the better
choices. At ELF, only the digital methods are feasible.

On the other hand, you might want to forego radio altogether
and try the sheet resistance method. This is very simple
conceptually. The Earth's surface can be viewed as a very
large sheet resistance. If you introduce a current flow
across part of it, some current will flow across all parts
of it (naturally decreasing proportionate to the distance
off the direct line path).

To do this, just drive two stakes in the ground as far apart
as convienent (the further apart the better) and drive them
with a large audio amplifier (a step up transformer on the
output is helpful as the distance between stakes grows larger).
On the receiving end, drive two more stakes, and connect them
to a sensitive audio preamp. Using a 100 watt audio amplifier,
and a typical phono preamp (with a good AC mains frequency filter),
a range of several miles is possible in rural areas. In urban areas,
there is so much noise from manmade ground currents that range will

be much less of course.

A carefully chosen tone frequency can be used instead of
voice, and that tone phase or frequency modulated with
a digital signal. If you choose the frequency to fall
between AC mains harmonics, you can apply narrow filtering
techniques to recover the signal at large distances despite
the presence of noise currents in the Earth.

I've taken the output of an auto radio (about 8 watts), driven
two stakes only 8 feet apart with it, and received the signal at
one quarter mile with just a pair of sensitive crystal earphones
connected to another pair of 8 foot separated stakes. This was in
very rural Kentucky, however, far from power lines. The method
also works across salt water.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2772. Calling Australia

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-29 00:00:00 UTC
From: DMedley@gnn.com
Message-ID: <4m1hpi$6ie@news-e2d.gnn.com>
Source record: 105778

I would like to hear from any homebrewers in Australia. I need some
help in procuring parts for a project I am working on.
Lets hear from you Mates
Regards
Dave Medley

David Medley

2773. Re: WTB: 0 - 140 pf Variable Capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4m4gm0$hce@crash.microserve.net>
Source record: 105701

cmoore@vegas.ch.intel.com (Cecil A. Moore~) wrote:

>What frequency does a zero pf cap tune?

Cecil, capacitors tune light at 0 pF. That's why you can see through
them if you sight down the axis when they're fully unmeshed. :o)

73,
Jack WB3U

2774. Re: Help QRP swr meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4m4gmo$hce@crash.microserve.net>
Source record: 105702

timhynde@ix.netcom.com(Tim Hynde ka8ddz qrp/Rochester, MI) wrote:

>I just finished the simple swr meter from the W1FB QRP book, seems to
>concour with the commmercial units my friends have. Since your
>sampling forward and reverse power can anyone tell me how to
>calibrate the meter to read in watts or fractions thereof?
>
>I imagine you would measure voltage across the 50 ohm dummy but not
>sure if this is the complete meathod.

Yes, an accurate voltage measurement across the load resistor is all
that's required to calibrate the meter for forward power. Needless to
say, the SWR indicated on the meter during this should be 1, and you
might also want to verify the exact resistance of the load. Checking
the calibrations for accuracy at both ends of the HF spectrum wouldn't
be a bad idea, either.

73,
Jack WB3U

2775. (none)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: vk2esl@vk2djg.une.EDU.AU
Message-ID: <6028@vk2esl.ampr.org>
Source record: 105703

Reply-To vk2esl@vk2djg.une.edu.au
To: ham-homebrew@ucsd.edu
Subject: Re: calling Australia
Lines: 14
X-Mailer: PCElm 3.01

>I would like to hear from any homebrewers in Australia. I need some
>help in procuring parts for a project I am working on.
>Lets hear from you Mates
>Regards
>Dave Medley

G'day Dave.
Lets have a list of those parts and I'll see what I can do.

Steve

2776. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4m4isk$hh8@crash.microserve.net>
Source record: 105704

Post / CC by Mail

eganger@mindspring.com (Ed Ganger) wrote:

>If I can't be convinced about antifreeze, what other options are
>there for a coolant?

>"mineral oil" from a pharmacy?

Mineral oil was the factory choice in devices like the Cantenna. I can
remember specifically reading warnings about not using motor oil for
this, although I don't remember the reason.

>(I would _really_ like to stay away from oil though ... it is
>almost impossible to clean up!)

Ethelyene glycol isn't much better and I don't know *anyone* who
has used it for this purpose (maybe because it's poison)?

My advice is to use the oil.

73,
Jack WB3U

2777. Re: 8031 microcntrlr ham apps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8308638282801@humnet.humberc.on.ca>
Source record: 105705

>
>
> Anyone have any ham radio applications for the 80C32 / 8051
> microcontroller family? I am trying to learn the 8032 and would like
> some "usefull" programs to help with the teaching process.
>
> Tim Hynde ka8ddz
>

Hi Tim...I have a couple of small 8031 programs that I wrote for
Ham applications...a simple repeater controller, a beacon keyer...
Interested ?

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

2778. Re: All tube class D AM TX any tricks. Any ideas regarding implementation.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4m51et$5em@kocrsv08.delcoelect.com>
Source record: 105706

Bob

I don't believe I would recommend class a class "D" modulator. The spurious sidebands that would be created would be awfully hard to suppress. If you want to do transformerless AM, I would suggest you modulate the screen.

Another neat approach would be to use an old filament transformer - 6.3v @ 10 amps connected backwards to one of these inexpensive aftermarket car stereo power amplifiers. Then you would have plate modulation and a good clean signal too!

73

K9JDU

2779. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: a313@Lehigh.EDU
Message-ID: <4m50qp$mac@ns5-1.CC.Lehigh.EDU>
Source record: 105707

In article <4m4isk$hh8@crash.microserve.net>, jackl@pinetree.microserve.com (WB3
U) writes:
>Post / CC by Mail
>
> eganger@mindspring.com (Ed Ganger) wrote:
>
>>If I can't be convinced about antifreeze, what other options are
>>there for a coolant?
>
>>"mineral oil" from a pharmacy?
>
>Mineral oil was the factory choice in devices like the Cantenna. I can
>remember specifically reading warnings about not using motor oil for
>this, although I don't remember the reason.
>
>>(I would _really_ like to stay away from oil though ... it is
>>almost impossible to clean up!)
>
>Ethelyene glycol isn't much better and I don't know *anyone* who
>has used it for this purpose (maybe because it's poison)?
>
>My advice is to use the oil.
>
>73,
>Jack WB3U
>
I use Shell "Dial X" Transformer oil in my Cantenna. You might check with your
local power utility to see what they use in their transformers that is
enviormentally freindly.
73's
Dick K8WHA

2780. Re: Help QRP swr meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: dstock@hpqmdla.sqf.hp.com
Message-ID: <Dqo7Hw.E5G@hpqmoea.sqf.hp.com>
Source record: 105708

Tim Hynde ka8ddz qrp/Rochester, MI (timhynde@ix.netcom.com) wrote:

: I just finished the simple swr meter from the W1FB QRP book, seems to
: concour with the commmercial units my friends have. Since your sampling
: forward and reverse power can anyone tell me how to calibrate the meter
: to read in watts or fractions thereof?

: I imagine you would measure voltage across the 50 ohm dummy but not
: sure if this is the complete meathod.

That sums it up pretty well.

Use a 50 ohm dummy load, scrounge a reasonable oscilloscope that
will cover the HF range and measure the Peak-peak voltage across the
load. Square the p-p voltage, divide by 400 and you get watts. Mark the
pointer positions on paper stuck outside the meter and make a neat scale
when you're happy with everything.

The original was published in "Sprat" number 61 and simply used two
meters, no pots. One showed forwards power, the other reverse. This is
much simpler to use, you can see forwards power peak and reverse power
null as you tune up your antenna, why bother working out VSWR?

You run RF through the thing backwards (power into the ANT connector,
dummy load on the input connector) to calibrate the reverse power meter
scale.

Cheers
David GM4ZNX

2781. Re: Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: dmiller@crl.com
Message-ID: <4m56tq$54o@crl.crl.com>
Source record: 105709

Clinton Peebles (clinton.peebles@saloon.bcbbs.net) wrote:
: A couple weeks ago I heard a story on CBC radio about a wind up radio
: being manufactured in South Africa. Are these available in North
: America? I'd like to get one. Maybe get the spring and generator out
: of one and make a wind up QRP rig.

The company is "Windup Technology" and they are reachable by E-mail.

Try 74301.2203@compuserve.com for info.

Later,

--

Don Miller
dmiller@crl.com

2782. Re: Crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: mac@cis.ksu.edu
Message-ID: <mac.830875455@zaurak.cis.ksu.edu.cis.ksu.edu>
Source record: 105710
Body handling: 1 inline base64-encoded payload block was not displayed

Don Quinsland <dquinsla@connix.com> writes:
>Does anyone have plans for an old style crystal radio, using a galena
>crystal and cat's whiskers?

Here are two:

>I would like to have our scouts build a crystal radio set. Can anyone provide
>a set of instructions and or schematic. If you can help please E-mail me.

Practically ANY circuit containing a diode will work!

```
Antenna (the longer the better, depending on how close you are to a station)
|
| Coil wound on toilet-paper roll, with slider contacts for tuning
| |
| v
| & diode
| &<---+---------->|----+--------+
| & | | |
+---->& | | O high-impedance headphones
& =~200 pf 0.01mf= ) (8-0hms modern things
& | cap cap. | O will NOT work!)
| | | |
+----+----------------+--------+
|
Ground
```

If ~200 pf cap is variable (taken from an old broadcase AM radio, for
example), then only one slider on coil (to the antenna) is necessary.
Put a capacitor in antenna lead and can eliminate other slider, but result
is not nearly so homebrew. One CAN (and maybe SHOULD?!) MAKE (i.e., home-
brew) both capacitors: waxed paper or mylar and Aluminum foil.

The following came across the net some time back:

Someone asked:
> Anyone know where I can get a crystal radio kit? ....

Get a toilet roll with no paper on it. Wind 150 turns of 26-30 gage enamel
covered copper wire on the roll. At 50 and 100 turns make a bit of a twist
in the wire so that you can make a contact with it. You will have to
remove the insulation with a nail file or cigarette lighter. Make sure you
can make a good contact. Shiney copper. Connect the coil in parallel with
a 365pf variable air capacitor. I dont know where you buy these from. I
used to get them from old radios. Connect one side of an ear phone (which
MUST be high impedance; do not try to use a walkman type headphone. I found

that a receiver element from an old telephone handset works well.) to one side of the coil. Connect the other side to a diode IN914 (almost any diode will do). Connect the diode to the other side of the coil. Crystal radios need a decent antenna (~25-50 foot wire) and a good ground. The ground is very important. To alter the frequency range you can connect the capacitor to the taps on the coil at 50 and 150 turns.

Here is a postscript schematic of the circuit:
From: control3@McRCIM.McGill.EDU (Mark Readman)
Date: Mon, 7 Dec 92 00:14:12 GMT
Newsgroups: rec.radio.shortwave,rec.radio.amateur.misc
Subject: Re: Crystal Radio Kits?

```
%!PS-Adobe-2.0 EPSF-1.2
%%DocumentFonts: Times-Roman
%%Pages: 1
%%BoundingBox: 87 163 513 614
%%EndComments

/IdrawDict 51 dict def
IdrawDict begin

/reencodeISO {
dup dup findfont dup length dict begin
{ 1 index /FID ne { def }{ pop pop } ifelse } forall
/Encoding ISOLatin1Encoding def
currentdict end definefont
} def

/ISOLatin1Encoding [
/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef
/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef
/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef
/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef

/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef
/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef/.notdef
/.notdef/dotlessi/grave/acute/circumflex/tilde/macron/breve
/dotaccent/dieresis/.notdef/ring/cedilla/.notdef/hungarumlaut

[Inline base64-encoded payload not displayed]

] def
/Times-Roman reencodeISO def

/arrowHeight 8 def
/arrowWidth 4 def
/none null def
/numGraphicParameters 17 def
/stringLimit 65535 def

/Begin {
save
```

```
numGraphicParameters dict begin
} def

/End {
end
restore
} def

/SetB {
dup type /nulltype eq {
pop
false /brushRightArrow idef
false /brushLeftArrow idef
true /brushNone idef
} {
/brushDashOffset idef
/brushDashArray idef
0 ne /brushRightArrow idef
0 ne /brushLeftArrow idef
/brushWidth idef
false /brushNone idef
} ifelse
} def

/SetCFg {
/fgblue idef
/fggreen idef
/fgred idef
} def

/SetCBg {
/bgblue idef
/bggreen idef
/bgred idef
} def

/SetF {
/printSize idef
/printFont idef
} def

/SetP {
dup type /nulltype eq {
pop true /patternNone idef
} {
dup -1 eq {
/patternGrayLevel idef
/patternString idef
} {
/patternGrayLevel idef
} ifelse
false /patternNone idef
```

```
} ifelse
} def

/BSpl {
0 begin

newpath
n 1 gt {
0 0 0 0 0 0 1 1 true subspline
n 2 gt {
0 0 0 0 1 1 2 2 false subspline
1 1 n 3 sub {
/i exch def
i 1 sub dup i dup i 1 add dup i 2 add dup false subspline
} for
n 3 sub dup n 2 sub dup n 1 sub dup 2 copy false subspline
} if
n 2 sub dup n 1 sub dup 2 copy 2 copy false subspline
patternNone not brushLeftArrow not brushRightArrow not and and { ifill } if
brushNone not { istroke } if
0 0 1 1 leftarrow
n 2 sub dup n 1 sub dup rightarrow
} if
end
} dup 0 4 dict put def

/Circ {
newpath
0 360 arc
patternNone not { ifill } if
brushNone not { istroke } if
} def

/CBSpl {
0 begin
dup 2 gt {

newpath
n 1 sub dup 0 0 1 1 2 2 true subspline
1 1 n 3 sub {
/i exch def
i 1 sub dup i dup i 1 add dup i 2 add dup false subspline
} for
n 3 sub dup n 2 sub dup n 1 sub dup 0 0 false subspline
n 2 sub dup n 1 sub dup 0 0 1 1 false subspline
patternNone not { ifill } if
brushNone not { istroke } if
} {
Poly
} ifelse
end
} dup 0 4 dict put def
```

```
/Elli {
0 begin
newpath
4 2 roll

scale
0 0 1 0 360 arc
patternNone not { ifill } if
brushNone not { istroke } if
end
} dup 0 1 dict put def

/Line {
0 begin
2 storexyn
newpath
x 0 get y 0 get moveto
x 1 get y 1 get lineto
brushNone not { istroke } if
0 0 1 1 leftarrow
0 0 1 1 rightarrow
end
} dup 0 4 dict put def

/MLine {
0 begin

newpath
n 1 gt {
x 0 get y 0 get moveto
1 1 n 1 sub {
/i exch def
x i get y i get lineto
} for
patternNone not brushLeftArrow not brushRightArrow not and and { ifill } if
brushNone not { istroke } if
0 0 1 1 leftarrow
n 2 sub dup n 1 sub dup rightarrow
} if
end
} dup 0 4 dict put def

/Poly {
3 1 roll
newpath
moveto
-1 add
{ lineto } repeat

patternNone not { ifill } if
brushNone not { istroke } if
} def
```

```
/Rect {
0 begin
/t exch def
/r exch def
/b exch def
/l exch def
newpath
l b moveto
l t lineto
r t lineto
r b lineto

patternNone not { ifill } if
brushNone not { istroke } if
end
} dup 0 4 dict put def

/Text {
ishow
} def

/idef {
dup where { pop pop pop } { exch def } ifelse
} def

/ifill {
0 begin
gsave
patternGrayLevel -1 ne {
fgred bgred fgred sub patternGrayLevel mul add
fggreen bggreen fggreen sub patternGrayLevel mul add
fgblue bgblue fgblue sub patternGrayLevel mul add setrgbcolor
eofill
} {
eoclip
originalCTM setmatrix
pathbbox /t exch def /r exch def /b exch def /l exch def
/w r l sub ceiling cvi def
/h t b sub ceiling cvi def
/imageByteWidth w 8 div ceiling cvi def
/imageHeight h def
bgred bggreen bgblue setrgbcolor
eofill
fgred fggreen fgblue setrgbcolor
w 0 gt h 0 gt and {
l b translate w h scale
w h true [w 0 0 h neg 0 h] { patternproc } imagemask
} if
} ifelse

end
} dup 0 8 dict put def
```

```
/istroke {
gsave
brushDashOffset -1 eq {
[] 0 setdash
1 setgray
} {
brushDashArray brushDashOffset setdash
fgred fggreen fgblue setrgbcolor
} ifelse
brushWidth setlinewidth
originalCTM setmatrix
stroke

} def

/ishow {
0 begin
gsave
fgred fggreen fgblue setrgbcolor
printFont printSize scalefont setfont
/descender 0 printFont /FontBBox get 1 get printFont /FontMatrix
get transform exch pop def
/vertoffset 1 printSize sub descender sub def {
0 vertoffset moveto show
/vertoffset vertoffset printSize sub def
} forall

end
} dup 0 2 dict put def

/patternproc {
0 begin
/patternByteLength patternString length def
/patternHeight patternByteLength 8 mul sqrt cvi def
/patternWidth patternHeight def
/patternByteWidth patternWidth 8 idiv def
/imageByteMaxLength imageByteWidth imageHeight mul
stringLimit patternByteWidth sub min def
/imageMaxHeight imageByteMaxLength imageByteWidth idiv patternHeight idiv
patternHeight mul patternHeight max def
/imageHeight imageHeight imageMaxHeight sub store
/imageString imageByteWidth imageMaxHeight mul patternByteWidth add string def
0 1 imageMaxHeight 1 sub {
/y exch def
/patternRow y patternByteWidth mul patternByteLength mod def
/patternRowString patternString patternRow patternByteWidth getinterval def
/imageRow y imageByteWidth mul def
0 patternByteWidth imageByteWidth 1 sub {
/x exch def
imageString imageRow x add patternRowString putinterval
} for
} for
```

```
end
} dup 0 12 dict put def

/min {
dup 3 2 roll dup 4 3 roll lt { exch } if pop
} def

/max {
dup 3 2 roll dup 4 3 roll gt { exch } if pop
} def

/arrowhead {
0 begin
transform originalCTM itransform
/taily exch def
/tailx exch def
transform originalCTM itransform
/tipy exch def
/tipx exch def
/dy tipy taily sub def
/dx tipx tailx sub def
/angle dx 0 ne dy 0 ne or { dy dx atan } { 90 } ifelse def
gsave
originalCTM setmatrix
tipx tipy translate
angle rotate
newpath
0 0 moveto
arrowHeight neg arrowWidth 2 div lineto
arrowHeight neg arrowWidth 2 div neg lineto

patternNone not {
originalCTM setmatrix
/padtip arrowHeight 2 exp 0.25 arrowWidth 2 exp mul add sqrt brushWidth mul
arrowWidth div def
/padtail brushWidth 2 div def
tipx tipy translate
angle rotate
padtip 0 translate
arrowHeight padtip add padtail add arrowHeight div dup scale

ifill
} if
brushNone not {
originalCTM setmatrix
tipx tipy translate
angle rotate

istroke
} if

end
} dup 0 9 dict put def
```

```
/arrowheadpath {
newpath
0 0 moveto
arrowHeight neg arrowWidth 2 div lineto
arrowHeight neg arrowWidth 2 div neg lineto

} def

/leftarrow {
0 begin
y exch get /taily exch def
x exch get /tailx exch def
y exch get /tipy exch def
x exch get /tipx exch def
brushLeftArrow { tipx tipy tailx taily arrowhead } if
end
} dup 0 4 dict put def

/rightarrow {
0 begin
y exch get /tipy exch def
x exch get /tipx exch def
y exch get /taily exch def
x exch get /tailx exch def
brushRightArrow { tipx tipy tailx taily arrowhead } if
end
} dup 0 4 dict put def

/midpoint {
0 begin
/y1 exch def
/x1 exch def
/y0 exch def
/x0 exch def
x0 x1 add 2 div
y0 y1 add 2 div
end
} dup 0 4 dict put def

/thirdpoint {
0 begin
/y1 exch def
/x1 exch def
/y0 exch def
/x0 exch def
x0 2 mul x1 add 3 div
y0 2 mul y1 add 3 div
end
} dup 0 4 dict put def

/subspline {
0 begin
/movetoNeeded exch def
```

```
y exch get /y3 exch def
x exch get /x3 exch def
y exch get /y2 exch def
x exch get /x2 exch def
y exch get /y1 exch def
x exch get /x1 exch def
y exch get /y0 exch def
x exch get /x0 exch def
x1 y1 x2 y2 thirdpoint
/p1y exch def
/p1x exch def
x2 y2 x1 y1 thirdpoint
/p2y exch def
/p2x exch def
x1 y1 x0 y0 thirdpoint
p1x p1y midpoint
/p0y exch def
/p0x exch def
x2 y2 x3 y3 thirdpoint
p2x p2y midpoint
/p3y exch def
/p3x exch def
movetoNeeded { p0x p0y moveto } if
p1x p1y p2x p2y p3x p3y curveto
end
} dup 0 17 dict put def

/storexyn {
/n exch def
/y n array def
/x n array def
n 1 sub -1 0 {
/i exch def
y i 3 2 roll put
x i 3 2 roll put
} for
} def

%%EndProlog

%I Idraw 9 Grid 8

%%Page: 1 1

Begin
%I b u
%I cfg u
%I cbg u
%I f u
%I p u
%I t
[ 0.8 0 0 0.8 0 0 ] concat
```

```
/originalCTM matrix currentmatrix def

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 1 0 0 1 90 218 ] concat
%I
189 330 249 330 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 1 0 0 1 90 218 ] concat
%I
189 310 249 310 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 1 0 0 1 90 218 ] concat
%I
189 290 249 350 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
```

```
none SetP %I p n
%I t
[ 1 0 0 1 90 218 ] concat
%I
239 350 249 350 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 1 0 0 1 90 218 ] concat
%I
249 350 249 340 Line
End

Begin %I Elli
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 0 1 -1 0 360 309 ] concat
%I
169 161 20 30 Elli
End

Begin %I Elli
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 0 1 -1 0 360 339 ] concat
%I
169 161 20 30 Elli
End

Begin %I Elli
%I b 65535
```

```
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 0 1 -1 0 360 369 ] concat
%I
169 161 20 30 Elli
End

Begin %I Elli
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 0 1 -1 0 360 399 ] concat
%I
169 161 20 30 Elli
End

Begin %I Elli
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 0 1 -1 0 360 429 ] concat
%I
169 161 20 30 Elli
End

Begin %I Rect
none SetB %I b n
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
```

```
129 270 149 400 Rect
End

Begin %I Elli
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 1 0 0 1 80 208 ] concat
%I
428 350 10 10 Elli
End

Begin %I Elli
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 1 0 0 1 80 208 ] concat
%I
428 300 10 10 Elli
End

Begin %I BSpl
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
none SetP %I p n
%I t
[ 1 0 0 1 80 208 ] concat
%I 9
438 300
458 300
468 310
478 320
478 330
468 340
458 350
438 350
438 350
```

```
9 BSpl
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
109 469 109 420 Line
End

Begin %I Rect
none SetB %I b n
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
109 400 149 430 Rect
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
109 260 109 230 Line
End

Begin %I Rect
none SetB %I b n
%I cfg Black
0 0 0 SetCFg
```

```
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
109 260 139 270 Rect
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
109 469 269 469 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
269 479 269 460 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
```

```
%I
269 479 289 469 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
269 460 289 469 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
289 479 289 460 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
289 469 418 469 Line
End

Begin %I Line
%I b 65535
```

```
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
418 469 418 370 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
109 230 418 230 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
418 300 418 230 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
```

```
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
219 469 219 350 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
219 330 219 230 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
40 549 40 469 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
40 469 109 469 Line
End
```

```
Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
30 569 40 549 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
40 549 59 569 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
40 569 40 549 Line
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 329 498 ] concat
```

```
%I
[
(500 pF)
(variable capacitor)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 548 478 ] concat
%I
[
(High impedance)
(ear phone)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 379 697 ] concat
%I
[
(diode)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 159 408 ] concat
%I
[
(coil)
(200 turns of thin \(but not too thin\))
(insulated copper wire.)
(22 swg should be ok.)
] Text
End
```

```
Begin %I BSpl
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I 6
79 370
59 380
49 370
59 360
79 370
79 370
6 BSpl
End
```

```
Begin %I BSpl
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I 5
79 310
59 320
49 310
59 300
79 310
5 BSpl
End
```

```
Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 110 548 ] concat
%I
[
(center)
(taps)
```

```
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 418 737 ] concat
%I
[
(IN914 or the base emitter junction)
(of a transistor)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 159 747 ] concat
%I
[
(100 ft copper wire antenna)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 120 578 ] concat
%I
[
(1)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 120 498 ] concat
%I
```

```
[
(2)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 159 309 ] concat
%I
[
(i\) try connecting the antenna or capacitor to )
( the center taps.)
()
(ii\) )
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 159 727 ] concat
%I
[
(strung horizontally or)
(wherever possible.)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 279 219 ] concat
%I
[
(The basic crystal set)
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
```

```
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 179 269 ] concat
%I
[
(in stormy weather disconnect the antenna)
] Text
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
348 230 348 191 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
328 191 368 191 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
```

```
%I
338 181 358 181 Line
End

Begin %I Line
%I b 65535
1 0 0 [] 0 SetB
%I cfg Black
0 0 0 SetCFg
%I cbg White
1 1 1 SetCBg
%I p
1 SetP
%I t
[ 1 0 0 1 90 198 ] concat
%I
344 171 353 171 Line
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 491 389 ] concat
%I
[
(ground connection.)
(\(cold water pipe\))
] Text
End

Begin %I Text
%I cfg Black
0 0 0 SetCFg
%I f -*-times-medium-r-*-*-*-140-75-75-*-*-*-*
Times-Roman 14 SetF
%I t
[ 1 0 0 1 158 345 ] concat
%I
[
(Wind carefully and neatly.)
] Text
End

End %I eop

%%Trailer

end
```

```
# Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
# PhD EE; Associate Professor (913) 532-6350 work 532-7353 fax 539-4448 home
# NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)
```

2783. electronic antenna tuners

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: efn002@email.mot.com
Message-ID: <4m54ku$dtq@brokaw.comm.mot.com>
Source record: 105711

Can anyone provide me some information on electronic antenna tuners
(products, design, or articles) ?

Thanks

2784. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: gcouger@tacoma.ceatlabs.okstate.edu
Message-ID: <4m590k$8e4@news.cis.okstate.edu>
Source record: 105712

In article <4m4isk$hh8@crash.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
>Post / CC by Mail
>
> eganger@mindspring.com (Ed Ganger) wrote:
>
>>If I can't be convinced about antifreeze, what other options are
>>there for a coolant?
>
>Mineral oil was the factory choice in devices like the Cantenna. I can
>remember specifically reading warnings about not using motor oil for
>this, although I don't remember the reason.
>
Motor oil has a number of aditives some are not very good for you.

>>(I would _really_ like to stay away from oil though ... it is
>>almost impossible to clean up!)
>
>Ethelyene glycol isn't much better and I don't know *anyone* who
>has used it for this purpose (maybe because it's poison)?
>
Proplene glycol is use for antifreeze in potable water systems. And should
be safe.

Water is the best coolant but becomes conductive with very low levels of
contanmination. Also it has a very high dielectric constant about 80 compaired
to most things 3 - 7. This would seriously alter reactance of the internal
leads.

Checking the dielectirc constants for ethelene glycol it was 37 and propalene
glycol about the same. Minral oil was 3. So if you used antifreeze insted of
oil the internal capacitance would be ten times as great as if you had used
oil. This would probably not be much of a problem below 30 mhz but it would
start to be a problem at 2 meters for sure.

Good luck
Gordon AB5Dg
Gordon Couger Senior Software Specialist
Biosystems & Agricultural Engineering Dept. Oklahoma State Univ.
114 Ag Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu

2785. Re: Tube info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4m4dj9$28e@news.calweb.com>
Source record: 105713

Duck 1 <ducks@earthlink.net> wrote:
>Does anyone know of a good scorce for(or replacement for) 2E26 tubes?
>HEEELLLLPPPPPP!
>

It would be helpful if I knew how many you want.

Bill K7NOM

2786. CD4538

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: ccurtis@avionics.ITt.COM
Message-ID: <31863DC0@avint4.avionics.itt.com>
Source record: 105714

Date: 29 Apr 1996 20:31:25 GMT
From: tkayani@Legarto.Minn.Net (Tahir Kayani)
Subject: CD4538BF Needed

Hello all,

I need CD4538BF in a large quantity. I have called Mouser and they only had
6 on hand and the part is now considered obsolete. Any suggestions where
I might find a ready supply?

Thanks.

I cut this from the Allied Electronics (phone: 1-800-433-5700) web site:

Qty Purchase Allied
Available at Least Pay this Catalog
Manufacturer's # for Sale this many Price each Page
288-0753 NATIONAL SEMICONDUCTOR
CD4538BCN 497 1 1.000 775
25 0.750
100 0.600

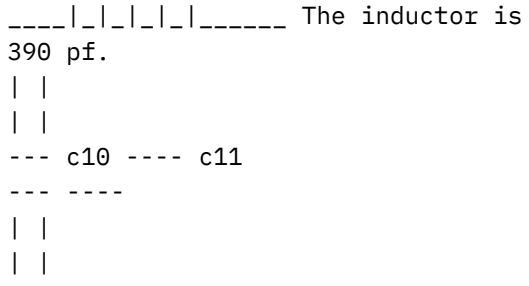
Chuck Curtis, N2UCN

2787. Pebble Crusher - Output problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4m5245$ros@dfw-ixnews6.ix.netcom.com>
Source record: 105715

After building the swr meter and Pebble Crusher from the W1FB QRP book, I found that the power out of the TX was very low (~~10 mw) I started fooling around and removed some windings from the 31 turns of #26 on a T-50-6, this torroid is part of a filter on the output that comes right off the collector of a 2n4400, well, after removing about HALF the turns I had the power up to about 3/4 of a watt. (a bit more that the transistor is rated for I think).

Whats happening here? clearly the inductance is half of what it should be, I am testing into 50ohms using carbon comp reistors, the signal at my rx seems to be chirp free and clean. The circuit is tuned for 40m.



72, Tim Hynde ka8ddz

2788. Re: QRP project

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4m5hfa$8kn@nadine.teleport.com>
Source record: 105716

In article <4m3h0i$o4t@murrow.corp.sgi.com>,
adams@chuck.dallas.sgi.com (chuck adams) wrote:
>Gang,
>
>One word of warning on single tube/single transistor
>and simple circuits. 99% of them will not meet the
>FCC requirements for spectral purity on the output
>due to lack of filtering.
>
>You might consider finding the high dollar equipment
>to measure the output.
>
>It's your license at stake here.
>
>Also, this may not be a problem now, but during the
>next sunspot peaks you may get a citation for working
>the high bands when you thought you were on 40M. :-)
>
>Of course, you could make this a challenging project
>for yourself to clean it up.
>
>FYI
>
>dit dit

A "half-wave" filter as described in Hayward & DeMaw's _Solid State Design
For the Radio Amateur_ is very simple to design and build, non-critical,
and probably adequate to bring nearly any QRP rig into compliance when
tacked onto the output following the normal matching/filtering network. It
will also have negligible loss. It's good, simple insurance.

Roy Lewallen, W7EL

2789. Re: Pebble Crusher - Output problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <31864DB3.76D3@lanl.gov>
Source record: 105717

What are you using for a power meter? Keep in mind even the venerable Bird 43 will give inaccurate (high) power readings when a final is mistuned.
The fact that your power meter shows high power does NOT mean it is putting out power on your DESIRED frequency. It is possible you are mis-tuning the output to a harmonic or more likely into a state of oscillation which can produce overly high false power readings into a wattmeter. If you had access to a spectrum analyser you could easily see what is going on while you tune the output. If you have some sort of filter already set to 50 ohms and the desired output frequency then you could tune for maximum power out AFTER the filter and have some assurance the resultant power is at the desired frequency.
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
http://nis-www.lanl.gov/~jdport/

2790. Re: All tube class D AM TX any tricks. Any ideas regarding implementation.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4m5cqp$nbl@hpcvsnz.cv.hp.com>
Source record: 105718

Bob Duckworth (rmd@ka4ybr.netmha.com) wrote:
: I've been thinking of building an AM TX for 160m and 80m and
: not having any suitable transformers for modulating the plate
: thought that just maybe I could do it by pulse width modulation.

: Here's the tricky part, I want to do this with tubes.
: Any suggestions?

: I'd like to keep this fairly simple as far as the power supply goes
: so it's gonna be 807 or 1625 or 6146 type final.

: WHat sort of tube would make a good modulator for class D?
: Any suggestions for turning the audio from the mike into PWM via tubes?

What kind of tube? Something that can pull very close to "ground", or return its cathode to a negative voltage. And at fairly high currents... so, maybe a TV sweep tube would be a reasonable place to start, using 100 volts or so negative on the cathode. Why not power mosfets? You can get 1000 volt 5 ohm 3 amp parts for under $11 from DigiKey.

Generating the PWM is duck soup. Just build a clean sawtooth generator and compare its output with the audio, suitably amplified from the mic. It will be easiest for you if you design the system to be linear without feedback; putting feedback around a class D amplifier and keeping it stable is not trivial. You'll need to cleanly amplify and level-shift the PWM signal to a value to drive the grids of the switches (tubes/mosfets). Normally, you'd want a switch to pull to "ground" and one to pull (on the remainder of the cycle) to "B+". Driving the grid of the latter will be fun, since the cathode is moving up and down with the PWM waveform; and you'd better have a good floating filament supply! (The power mosfets really are easier to use! And they have much lower "on" voltage drops.)

An alternative all-tube AM rig _can_ be built from a pair of FM-modulated transmitters, with the audio that's fed to each generated by some magic I don't recall. You can use class C RF out to the finals, and combine the RF outputs. Maybe someone else will remember this technique and post a reference. I think it was outlined in "RF Design" magazine back around 1986.

--
Cheers,
Tom
tomb@lsid.hp.com

2791. Re: Help ID These

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: David Chapman <dave@chassis.demon.co.uk>
Message-ID: <gIDlvAABomhxEwQT@chassis.demon.co.uk>
Source record: 105719
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

Hi Clyde

You asked...
>Does anyone have any info on a Mitsubushi MD003, it is a 7 pin inline
>package that apparently switches RF.

The Mitsubishi MD003 is a solid-state RF switch capable of switching
up to 5 watts in the frequency range 800 - 940MHz.

Looking at the module, with the label facing you, pin 1 is on the left
hand side.

Connections are as follows :

1 2 3 4 5 6 7

GND RX GND BIAS ANT GND TX

With NO current into the BIAS pin (4) the ANT is connected to RX with
a loss of 1 - 1.5dB.

When you supply a current of 50mA into the bias pin (through a series
resistor) the ANT is connected to TX with a loss of 0.5 - 0.7dB.

I've been using the MD001 (400MHz version) in a design, with no
problems. Much better than using a mechanical relay, PROVIDING that you
ensure that you have good RF grounding arrangements linking ALL module
GND pins, and also proper decoupling of the bias pin on the module :-))

Hope this is of help.

ATB - Dave

David C.Chapman - Chartered Engineer. FIEE. (dave@chassis.demon.co.uk)

CHAPMAN ASSOCIATES is a Consultancy offering practical expertise and
design skills in the fields of counter-surveillance, electronic protection
and security. Visit our Web site at http://www.ant.co.uk/~chassis/

2792. Re: How to modify Philips UHF TV audio from 6(UK) to 5.5MHz(Oz)?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4m5tcv$2jv@crash.microserve.net>
Source record: 105720

Post / CC by Mail

John Young <john@comcirc.com.au> wrote:

>I recently arrived in Australia from the UK, together with UK
>standard Philips TVs and a video and I'm hoping to get them
>working over here. UK uses 6MHz audio, Australia has 5.5MHz
>(and a second audio channel at 5.75 I think). At the moment I
>can get video OK but the audio is not surprisingly very
>poor as it is right on the edge of the passband. I wonder if
>anyone has done this kind of mod and if it easy?

Hi John,

Your best bet is probably to contact a local Philips service center
and ask if there's an Australian version of those models. Depending
on the circuitry, you may be able change the SAW(S) and retune the
audio detector. That won't accomodate the dual-carrier audio used in
Australia though. If the boards in your equipoment lack the space for
additional components, you'll probably need to replace the equipment
to achieve full compatibility.

73,
Jack WB3U

2793. Re: Code practice tapes and oscilator needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: jyazel@freenet.columbus.oh.us
Message-ID: <4m62af$bd6@acme.freenet.columbus.oh.us>
Source record: 105721

Jack Yazel (jyazel@freenet.columbus.oh.us) wrote:

: If you can FTP, get Super Morse at:
: oak.oakland.edu
: /pub3/hamradio/arrl/bbs/vec filename: sm415.exe

This is a correction to the above response.

Apparently, sm415.exe is not available at the present time at Oakland.
However, sm410 is.

oak.oakland.edu

/pub/hamradio/dos/theory-and-morse filename: sm410.zip

There are some other morse code programs in that directory also.

Sorry for the confusion.

Jack, W8RAG

2794. Source for crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: Andrew Zimmerman <andrewz@leba.net>
Message-ID: <Pine.BSI.3.91.960430204750.29103A-100000@fig.leba.net>
Source record: 105722

Where can I purchase crystals for the 2 meter band? I have all the specs
in my radio manual (Genave GTX-2). Thank you.

Andrew

---
andrewz@leba.net Compu$erve 73307,2755 Amateur Radio AA3AK

2795. Re: MICROSTRIP LINES - what are they and who sells them

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: Madjid VE2GMI <orion@odyssee.net>
Message-ID: <3186DB2C.4E21@odyssee.net>
Source record: 105723

Richard Potter wrote:
>
> Hi fellow dxer's
>
> Got my novice when I was 13...god awful bunch of years ago.
>
> Recently I've been looking thru some broadband RF amplifier schematics
> trying to select one for a cable TV design project I received here at
> my work.
>
> I notice that many of these have a "componet" shown in the circuit as a
> "microstrip" or "microstrip line." The parts list simply lists them as
> "Z1 = 0.31 x 0.15 microstrip."
>
> What are these devices and who makes them? Even more important, who
> sells them?
>

Nobody those are made directly on double or multilayered PCBs

>
> BTW..I'm wanting to build a 100 Mhz to 1.4 Ghz broadband amp. Any
> favorite circuits that worked out as a good experience for you that
> you's like to share...or even a suggestion as to which type of amp
> worked well. I've been reviewing (studying) about 10 different types of
> amp circuits. I don't need a super flat response..the 1+ Ghz is to be
> ready for the changes to cable tv that are comming in the near future
> (interactive games, banking, etc, even the Internet).

Check Mini-Circuits they sell all sorts of microwave components for
civilian and military appplications from oscillators, mixers, amps and
power amps in the 1 to 5 Ghz range.

Mini-Circuits PoBox 166 Brooklyn NY (718) 934-4500
2625E 14th St. Bklyn NY (718) 769 0200

Madjid

2796. Morse Code Program/Antenna Information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-04-30 00:00:00 UTC
From: Edward Oros <ac3l@ix.netcom.com>
Message-ID: <318668A2.49FF@ix.netcom.com>
Source record: 105724

If you're looking for a good Morse Code program try IMCT.EXE
it's available at

http://www.4w.com/ham/antenna

You can find antenna information also for homebrew antennas.

ED-AC3L

2797. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: rpa00@bi.swissptt.ch
Message-ID: <4m7ol9$3tp@gd2inews.swissptt.ch>
Source record: 105629

In the last issue of SPRAT, the G-QRP club journal, there was a description of a very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as PA in TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in SPRAT, the MICRO 80. I don't understand how it is possible, when applying the LO signal on the base and the received signal on the collector of a bipolar NPN 2N4400 transistor, to produce the beat frequency on the emitter which is the AF signal to be received. I have never seen before such a type of mixer using only 1 transistor. Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2798. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: tubebuyer@aol.com
Message-ID: <4m7pf0$d6h@newsbf02.news.aol.com>
Source record: 105630

We used to get used transformer oil from the power company for free (for our homemade Cantennas). The PCB's were free as well. We used to get it all over our hands with no side effects (everyone has brown fur on their hands, right?).

Try vegetable oil. Perhaps you can boil off some of the H2O content? It is safe.

Forget the antifreeze.
Thanks and Best Regards,

Rick

2799. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Pierre-Andr&#65533; Rovelli <rpa00@bi.swissptt.ch>
Message-ID: <4m7odk$3tp@gd2inews.swissptt.ch>
Source record: 105631

In the last issue of SPRAT, the G-QRP club journal, there was a description of a very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as PA in TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in SPRAT, the MICRO 80. I don't understand how it is possible, when applying the LO signal on the base and the received signal on the collector of a bipolar NPN 2N4400 transistor, to produce the beat frequency on the emitter which is the AF signal to be received. I have never seen before such a type of mixer using only 1 transistor. Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2800. Re: W1FB QRP NOTEBOOK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: mjsilva@ix.netcom.com
Message-ID: <4m6ph0$34v@dfw-ixnews6.ix.netcom.com>
Source record: 105632

In <6030@vk2esl.ampr.org> vk2esl@vk2djg.une.EDU.AU (Steve Lisle)
writes:
>
>>Hi
>> I'm just wondering if anyone has W1FB's QRP notebook. If so,
please
>>could you list the projects in this book, as I am thinking of buying
it,
>>but would like to know what I'm buying first!!
>>
>>
>I have a copy and basicly it is 70 odd pages of pretty good stuff.
>It has 6 chapters, (1) receiving (2) transmitting (3)qrp accessory
>gear (4) qrp transceiving (5) The qrp workshop (6)qrp operating.
>It is well laid out and is chock full of quite simple projects.
>Hope thats a bit of help.

To add a little more info, the 70 pages refers to the original QRP
Notebook. The current W1FB QRP Notebook is 170-some pages, and as to
whether you should buy it, I'd say if you're interested enough in the
subject to ask then you should have the book.

73,
Mike, KK6GM

2801. Re: Tube info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Duck 1 <ducks@earthlink.net>
Message-ID: <31873EA6.3978@earthlink.net>
Source record: 105633

William W Janssen wrote:
>
> Duck 1 <ducks@earthlink.net> wrote:
> >Does anyone know of a good scorce for(or replacement for) 2E26 tubes?
> >HEEELLLLPPPPPP!
> >
>
> It would be helpful if I knew how many you want.
>
> Bill K7NOM

OH! Thank you,
I was a bit worried on this one. I need 3 purty bad, depending on
cost, perhaps 5 or 6. It's an old Motorola system, Getting very sick.
Any info - GREATLY APPRECIATED.
P.S. The 6146's aint so hot either.
Regards, Duck 1, Ducks@earthlink.net

2802. Re: HAIR LOSS?..OBSOLETE...Apologies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: butler@ee.tcd.ie
Message-ID: <4m7nj0$qk2@web3.tcd.ie>
Source record: 105634

In article <4m7n4j$qi8@web3.tcd.ie>, butler@ee.tcd.ie writes:

>
Apologies,

While sending multiple e-mails of this spam back to the originator I
inadvertently sent one to the group.

Dr. Gerry Butler, CEng. MIEE. [butler@ee.tcd.ie]
TELTEC-TCD (Radio Propagation Planning), Trinity College,Dublin 2,Ireland
Dept. of Electronic and Electrical Engineering,
[Dublin+Wicklow Mountain Rescue / EI0CH / EMT-D]

2803. Dummy Load Liquids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9604018309.AA830965894@mails.imed.com>
Source record: 105635

From my perspective mineral oil from the pharmacy is the best choice for 2 reasons. The *most* important is toxicity. The mineral oil from the pharmacy is non-toxic (also indigestible). Note that the old transformer oil *was* toxic (it contained PCB's).

Ethylene glycol is *POISONOUS*!! In fact you do not want to spill it where the dog or cat or kids will get to it. It has a sweet smell that lures animals (don't know about kids) and they drink it. It causes severe kidney damage (or is it liver damage). When you do anti-freeze on your car, do it outside of the gagage away from everything else and wash down the driveway VERY well afterwards.

The second reason for oil is what others have mentioned about dielectric constant.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

2804. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Pierre-Andr&#65533; Rovelli <rpa00@bi.swissptt.ch>
Message-ID: <4m7oaa$3tp@gd2inews.swissptt.ch>
Source record: 105636

In the last issue of SPRAT, the G-QRP club journal, there was a description of a very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as PA in TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in SPRAT, the MICRO 80. I don't understand how it is possible, when applying the LO signal on the base and the received signal on the collector of a bipolar NPN 2N4400 transistor, to produce the beat frequency on the emitter which is the AF signal to be received. I have never seen before such a type of mixer using only 1 transistor. Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2805. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Pierre-Andr&#65533; Rovelli <rpa00@bi.swissptt.ch>
Message-ID: <4m7ob0$3tp@gd2inews.swissptt.ch>
Source record: 105637

In the last issue of SPRAT, the G-QRP club journal, there was a description of a very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as PA in TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in SPRAT, the MICRO 80. I don't understand how it is possible, when applying the LO signal on the base and the received signal on the collector of a bipolar NPN 2N4400 transistor, to produce the beat frequency on the emitter which is the AF signal to be received. I have never seen before such a type of mixer using only 1 transistor. Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2806. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Pierre-Andr&#65533; Rovelli <rpa00@bi.swissptt.ch>
Message-ID: <4m7ocf$3tp@gd2inews.swissptt.ch>
Source record: 105638

In the last issue of SPRAT, the G-QRP club journal, there was a description of a very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as PA in TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in SPRAT, the MICRO 80. I don't understand how it is possible, when applying the LO signal on the base and the received signal on the collector of a bipolar NPN 2N4400 transistor, to produce the beat frequency on the emitter which is the AF signal to be received. I have never seen before such a type of mixer using only 1 transistor. Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2807. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Pierre-Andr&#65533; Rovelli <rpa00@bi.swissptt.ch>
Message-ID: <4m7oec$3tp@gd2inews.swissptt.ch>
Source record: 105639

In the last issue of SPRAT, the G-QRP club journal, there was a description of a very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as PA in TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in SPRAT, the MICRO 80. I don't understand how it is possible, when applying the LO signal on the base and the received signal on the collector of a bipolar NPN 2N4400 transistor, to produce the beat frequency on the emitter which is the AF signal to be received. I have never seen before such a type of mixer using only 1 transistor. Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2808. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Pierre-Andr&#65533; Rovelli <rpa00@bi.swissptt.ch>
Message-ID: <4m7oel$3tp@gd2inews.swissptt.ch>
Source record: 105640

In the last issue of SPRAT, the G-QRP club journal, there was a description of a very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as PA in TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in SPRAT, the MICRO 80. I don't understand how it is possible, when applying the LO signal on the base and the received signal on the collector of a bipolar NPN 2N4400 transistor, to produce the beat frequency on the emitter which is the AF signal to be received. I have never seen before such a type of mixer using only 1 transistor. Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2809. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: rpa00@bi.swissptt.ch
Message-ID: <4m7oju$3tp@gd2inews.swissptt.ch>
Source record: 105641

In the last issue of SPRAT, the G-QRP club journal, there was a description of a very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as PA in TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in SPRAT, the MICRO 80. I don't understand how it is possible, when applying the LO signal on the base and the received signal on the collector of a bipolar NPN 2N4400 transistor, to produce the beat frequency on the emitter which is the AF signal to be received. I have never seen before such a type of mixer using only 1 transistor. Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2810. Re: Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <318763DC.410B@arrl.org>
Source record: 105642

VE7KNL Clinton Peebles wrote:
>
> A couple weeks ago I heard a story on CBC radio about a wind up radio
> being manufactured in South Africa. Are these available in North
> America? I'd like to get one. Maybe get the spring and generator out
> of one and make a wind up QRP rig.

Yes, Charles Lukey posted to rec.radio.swap
Windup Technology 206-783-2880 FAX 783-8773
1-888-946-3871
email 74301.2203@compuserve.com

Sells for $149--I wondered how much they cost so I did a net search...

Zack KH6CP/1

2811. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: rpa00@bi.swissptt.ch
Message-ID: <4m7poq$4hn@gd2inews.swissptt.ch>
Source record: 105643

```
test
```

2812. need help to understand Pixie 80m CW trscvr circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: rpa00@bi.swissptt.ch
Message-ID: <4m7qe7$4lt@gd2inews.swissptt.ch>
Source record: 105644

In the last issue of SPRAT, the G-QRP club journal, there was a description of
a
very simple 80m DC CW Transceiver, the Pixie. It uses only one transistor as
PA in
TX and MIXER in RX. The PIXIE is based upon a design previously reviewed in
SPRAT,
the MICRO 80. I don't understand how it is possible, when applying the LO
signal on
the base and the received signal on the collector of a bipolar NPN 2N4400
transistor, to produce the beat frequency on the emitter which is the AF
signal to
be received. I have never seen before such a type of mixer using only 1
transistor.
Does anyone could help me to understand how works this very basic DC RX.

Pierre-Andre HB9FMN G-QRP 8360
rpa00@bi.swissptt.ch

2813. Re: Water Cooled Transmitting Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: glenne@sr.hp.com
Message-ID: <4m7tok$23d@canyon.sr.hp.com>
Source record: 105645

Donald E. Turner (turnerde@ccnet.com) wrote:

: Another problem is that the cooling water is limited to 70C, so a
: boiler/evaporator lash-up isn't an option. Has anyone got a novel idea of
: how to get around this problem.

Operate the plate at DC ground and the cathode/input structure at negative
supplies?

I've had similar problems with water cooled 3CX100s. I can't say it was ever
really solved well. I think I allowed the cooling water to boil so that
was even easier than your problem.

Maybe it doesn't really have to contact DC ground when the plate is run from
a negative supply?

Glenn n6gn

2814. Re: Press-n-peel???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <4m88gr$mva@buffnet2.buffnet.net>
Source record: 105646

In article <830340771.AA06130@hamlink.mn.org>, ka0gkc@hamlink.mn.org (Claton Cadmus) says:
>
>What is Press-N-Peel?? Is this a similiar film to the meadow lake
>stuff? Is it the same with just another name? If it is different how
>does it compare and where can I purchase some?
>
Yea .. It actually works.

2815. 8031 microcntrlr ham apps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Jan.van.Lienden@asml.NL
Message-ID: <199605011415.QAA10307@isis.asml.nl>
Source record: 105647

>
> Anyone have any ham radio applications for the 80C32 / 8051
> microcontroller family? I am trying to learn the 8032 and would like
> some "usefull" programs to help with the teaching process.
>
> Tim Hynde ka8ddz
>

Hello Tim,

Currently I am building a VHF FM transciever with a 8032 microcontroller.
The microcontroller reads the inputs from a rotary encoder for tuning and
several buttons and switches. The outputs are several LEDs, a LCD display,
the PLL IC and a small RAM with a battery backup for memory channels.
It will also feature an external command interface based on the remote
interface as used by Kenwood. The code is completely written in C using a
cross compiler.

This is not a completed program but if you are interested let me know.

Jan van Lienden PE1CID

e-mail: jan.van.lienden@asml.nl

2816. Broadband Noise Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4m8820$h5g@hg.oro.net>
Source record: 105648

I'd like to build a good broadband noise source that is relatively
flat (say, within 3 dB in any octave portion) from a MHz or so through
a GHz or so. (Please, no 6J6s operating with starved filament voltage
-- I used that trick for the last time in 1960.)

Anyway, anybody got a proven idea using cheap parts that will let me
generate this noise? Amplifying the noise to a milliwatt or so is
child's play using the Minicircuits little 2-buck amplifiers, but the
old trick of using a zener biased at the knee isn't giving me quite
the flatness I want. It comes out more like a constant slope up to
about 50 MHz and then a constant slope down to a gig.

If I can avoid paying for one of those "special noise diodes" that
sell for $20 or so, I'd like to do it.

Thanks fer the help.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic

2817. Re: Broadband Noise Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <4m894m$mva@buffnet2.buffnet.net>
Source record: 105649

In article <4m8820$h5g@hg.oro.net>, rst-engr@oro.net (Jim Weir) says:
>
>
>I'd like to build a good broadband noise source that is relatively
>flat (say, within 3 dB in any octave portion) from a MHz or so through
>a GHz or so. (Please, no 6J6s operating with starved filament voltage
>-- I used that trick for the last time in 1960.)
>
>Anyway, anybody got a proven idea using cheap parts that will let me
>generate this noise? Amplifying the noise to a milliwatt or so is
>child's play using the Minicircuits little 2-buck amplifiers, but the
>old trick of using a zener biased at the knee isn't giving me quite
>the flatness I want. It comes out more like a constant slope up to
>about 50 MHz and then a constant slope down to a gig.
>
>If I can avoid paying for one of those "special noise diodes" that
>sell for $20 or so, I'd like to do it.
>

QST had an article in 94 or 95 about an easy to build good to 1500 MHz or so diode based noise source. NoiseCom was providing the diodes for ten bucks. They would calibrate the finished unit for 25 bucks. I did not have them calibrate mine so I cannot comment on the linearity. I can tell you that it generated plenty of noise at 1296.

daveb

2818. Re: Broadband Noise Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Gerhard Hoffmann <ghf@berlin.snafu.de>
Message-ID: <4m8ajr$22@unlisys.unlisys.net>
Source record: 105650

rst-engr@oro.net (Jim Weir) wrote:
>
>
> I'd like to build a good broadband noise source that is relatively
> flat (say, within 3 dB in any octave portion) from a MHz or so through
> a GHz or so. (Please, no 6J6s operating with starved filament voltage
> -- I used that trick for the last time in 1960.)
>
> Anyway, anybody got a proven idea using cheap parts that will let me
> generate this noise? Amplifying the noise to a milliwatt or so is
> child's play using the Minicircuits little 2-buck amplifiers, but the
> old trick of using a zener biased at the knee isn't giving me quite
> the flatness I want. It comes out more like a constant slope up to
> about 50 MHz and then a constant slope down to a gig.
>
> If I can avoid paying for one of those "special noise diodes" that
> sell for $20 or so, I'd like to do it.

I used the B-E junction of a BFR96S transistor in breakdown mode
with good success. Other RF transistors shoud do.

Excess noise was 15 dB if I remember correctly and it was flat to
at least 2GHz as checked against a HP noise meter.

Note that 15 dB is not enough for precision measurements since
you need at least a 26 dB resisitive pad between the noise source
and the device under test to force the noise generator impedance
to EXACTLY 50 Ohms both if switched on and off.

So sooner or later I'll end up paying NoiseCom the $20.

Gerhard

2819. Re: Broadband Noise Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: raymonda@radium.eng.sun.com
Message-ID: <4m8dim$gol@engnews2.Eng.Sun.COM>
Source record: 105651

In article h5g@hg.oro.net, rst-engr@oro.net (Jim Weir) writes:
>
>I'd like to build a good broadband noise source that is relatively
>flat (say, within 3 dB in any octave portion) from a MHz or so through
>a GHz or so. (Please, no 6J6s operating with starved filament voltage
>-- I used that trick for the last time in 1960.)
>
>Anyway, anybody got a proven idea using cheap parts that will let me
>generate this noise? Amplifying the noise to a milliwatt or so is
>child's play using the Minicircuits little 2-buck amplifiers, but the
>old trick of using a zener biased at the knee isn't giving me quite
>the flatness I want. It comes out more like a constant slope up to
>about 50 MHz and then a constant slope down to a gig.
>
>If I can avoid paying for one of those "special noise diodes" that
>sell for $20 or so, I'd like to do it.
>
>Thanks fer the help.
>
>Jim
>
>
>Jim Weir VP Engineering | You bet your sweet patootie I speak for the
>RST Engineering | company. If I don't, ain't nobody gonna.
>Grass Valley CA 95945 |
>http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
>rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic
>

If you want really broadband noise why don't you just amplify
the thermal noise of a resistor? Go back to first principles and
calculate the noise of a resistor using Boltzman's constant at your
nominal operating temperature. Like you said, modamps are dirt cheap
these days and provide lots of gain up to several Ghz., so once you
know what your broadband noise output of the resistor is, just amplify
it to get to the noise power level you desire.

Calculate the noise power produced by a resistor of a given
value at ambient room temp in a given bandwidth. Then determine how
many dB gain you need after it to produce your desired noise power.
(Be sure to provide adequate isolation between stages in the gain
chain to prevent istability as you will be dealing with LOTS of gain).

Also, if you decide to band-limit the noise and put an LC filter
after the noise source watch out for saturation of the inductors if they

have a ferrite or powdered iron cores. I've seen a perfectly tuned bandpass filter put out a truly horridly shaped noise spectrum. The reason was that the aggregate power in the noise spectrum over a wide bandwidth (in this case about 40 MHz) was enough to saturate the cores and de-tune the filter.

I used this scheme to do some BER measurements on a satellite link and it worked quite well.

Ray Anderson WB6TPU

This response does not represent the official position of, or statement by, Sun Microsystems Incorporated. The above data is provided for informational purposes only. It is supplied without warranty of any kind.

/\
\\ \
\ \\ /
/ \/ / / Raymond E. Anderson
/ / \//\ Signal Integrity Engineer
\//\ / / Sun Microsystems
/ / /\ / 2550 Garcia Ave. MS MTV03-01
/ \\ \ Mountain View, CA 94043-1100
\ \\
\/ (415) 336-1023
(415) 336-5469 (FAX)
raymond.anderson@Sun.Com
raymonda@radium.eng.sun.com

2820. Xtal filters - distortion, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <4m8gcm$k6u@mrnews.mro.dec.com>
Source record: 105652

In search of my current Holy Grail, a higher performance receiver, I ask: Can anyone enlighten me a bit and perhaps give some article pointers re: what happens to signals on their way through crystal filters? It would be nice if there was a way to get somthing like "noise figure" and "output intercept" numbers, however crude.

The next question is... after processing through the crystal filter, is it worth worrying about noise, IMD and such in the IF amps, or does the filter turn your signals to mush, so it doesn't really matter as long as the amps are decent? I am aware of the practice of putting in another filter before the product detector to limit noise bandwidth.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@est.enet.dec.com
==========

2821. Re: Water Cooled Transmitting Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4m8goc$b8d@kocrsv08.delcoelect.com>
Source record: 105653

The usual approach is to run the plate at DC ground potential. This requires a little different insulation around the Grid and Filament/ cathode which are now operating thousands of volts below ground reference.

Tygon tubing for a few feet and distilled water in the radiation loop do just fine in most applications, but there are HCFC's that are also used.

73 de K9JDU

2822. Electronics Data Book to be released

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: qrpbook@aol.com
Message-ID: <4m8jqu$mbo@newsbf02.news.aol.com>
Source record: 105654

The Electronics Data Book for Homebrewers and QRP Yellow Pages is about to be released. The book highlights a number of popular QRP transceivers and also includes many data sheets featuring specific components as well as pages on capacitors, resistors and much more. It is a "must" for all amateur radio operators, electronics hobbyists and technicians. 192 pages spiral bound to lay flat on the bench.

The book will be released May 16 in Dayton at the QRP Symposium and will be sold in space 3405. Mail orders will be shipped May 16 (U.S.) and May 13 (foreign).

A special introductory price of $17.50 postpaid U.S. and $19.50 postpaid foreign will be in effect until 31 August, 1996. September 1 the price will be $23 postpaid U.S. and $25 postpaid foreign. Visa, MasterCard and Discovery cards accepted. Make checks payable to Five Watt Press. Colorado residents add sales tax. Colorado QRP Club members receive a $2.00 discount.

For order form by e-mail, send a note to QRPBOOK@aol.com or to Five Watt Press 740 Galena Street, Aurora, CO 80010-3922. Fax: 1-800-344-0740.

Dealers set to date:
U.S.: Gateway Electronics (3 locations)
Kanga U.S.

Europe:
G-QRP Club c/o G0OKY

Australia:
CW OPs QRP Club

Dealers will have books after the Dayton Hamvention.

If you have the ARRL Handbook, this book is a necessity. You will not find any other book like it.

2823. Re: Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: tacain@spd.dsccc.com
Message-ID: <4m8i3o$mov@sun001.spd.dsccc.com>
Source record: 105655

smackay@epix.net wrote:

: In Article<8BF528A.0028001B54.uuout@hobbs.com>, <dave.formilan@hobbs.com>
: writes:
: > Does anyone a nifty circuit for a phone in-use indicator. The
: indicator
: > can be LED, neon or whatever. I just need something to light at each
: of
: > my phones that would tell the would-be phone user that the phone line
: is
: > being used.
: >
: > I lose more connections to the Internet when either my wife or
: daughters
: > picks up the phone and says sorry.
: >
: > I sure someone must have solved this problem without major rewining or
: > adding a dedicated line.
: >
: > Thanks,
: >
: > Dave
: > ---
: >
: JADE Electronics makes one just as you described. Its a kit
: for $11.00. A bit expensive but you only need to buy one
: and clone the rest...
: 73
: Scott

My solution to the problem is cheaper and simpler... I just set my loss of carrier timer in the modem real long. I often set the computer up to do a long modem job, brain fade sets in, and I try to make a voice call. OOOPS! My ISP apparently also has theirs set long enough that I never loose a connection when I go stupid.

--
Tom Cain 214-477-8192
DSC Communications Corporation Mailstop: 121
1000 Coit Road Plano, Texas 75075 Internet: tacain@spd.dsccc.com
**** The opinions expressed are not those of DSC Communications, Inc ****

2824. HB Linear/TX Parts FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: DMedley@gnn.com
Message-ID: <4m8qno$c2j@news-e2b.gnn.com>
Source record: 105656

I have some parts that I have collected over the years for a homebrew project but the years have passed me by and I know I will not get around to it. These include rotary inductors, air wound coils, large and small variable capacitors and porcelain tube sockets and other stuff. If anyone is planning such a project maybe I have something that will help you. Let me know what you need.
Regards
David Medley

David Medley

2825. Re: (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <4m8hj2$oii@itnews.sc.intel.com>
Source record: 105657

rpa00@bi.swissptt.ch wrote:
>Does anyone could help me to understand how works this very basic DC RX.

No doubt you are familiar with an AM diode detector. Add a BFO and you have a CW detector. That's the way my first receiver, a Hallicrafters S38 did it. If you check a transistor with an ohm-meter, it looks like two diodes connected together at the base. They are using the non-linear characteristics of the base/collector junction to generate the sum and difference frequencies of the LO (BFO) and the received signal frequency. All it takes to "mix" two frequencies is some sort of non-linearity.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

2826. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4m8iib$qlf@hpcvsnz.cv.hp.com>
Source record: 105658

TUBEBUYER (tubebuyer@aol.com) wrote:
: We used to get used transformer oil from the power company for free (for
: our homemade Cantennas). The PCB's were free as well. We used to get it
: all over our hands with no side effects (everyone has brown fur on their
: hands, right?).

Of course, all current transformer oil, at least in the USA, is PCB-free
(rather than containing free PCB...;-) -- you can likely get some
free or at low cost from your local power utility or a transformer
rewinding shop. I think it's safer than other alternatives which
could be much more flammable and not necessarily a good dielectric.

--
Cheers,
Tom
tomb@lsid.hp.com

2827. Re: Source for crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: kc4gck@sunbelt.net
Message-ID: <NEWTNews.830977795.21962.kc4gck@STC.NET.STC.NET>
Source record: 105659

In Article<Pine.BSI.3.91.960430204750.29103A-100000@fig.leba.net>,
<andrewz@leba.net> write:
> Path:
news1.sunbelt.net!udel!gatech!news.cse.psu.edu!uwm.edu!math.ohio-state.edu!howl
and.reston.ans.net!newsfeed.internetmci.com!in1.uu.net!lebanet!fig.leba.net!and
rewz
> From: Andrew Zimmerman <andrewz@leba.net>
> Newsgroups: rec.radio.amateur.homebrew
> Subject: Source for crystals
> Date: Tue, 30 Apr 1996 20:48:47 -0400
> Organization: LebaNet
> Lines: 10
> Message-ID: <Pine.BSI.3.91.960430204750.29103A-100000@fig.leba.net>
> NNTP-Posting-Host: fig.leba.net
> Mime-Version: 1.0
> Content-Type: TEXT/PLAIN; charset=US-ASCII
>
> Where can I purchase crystals for the 2 meter band? I have all the specs
> in my radio manual (Genave GTX-2). Thank you.
>
> Andrew
>
> ---
> andrewz@leba.net Compu$erve 73307,2755 Amateur Radio AA3AK
> ---
>
>
Try JAN Crystals. These folks have been around a very long time,
and have a super reputation. They do have an 800 number,

1-800-JAN-XTAL

About all you need is the model radio, and the frequencies
you are interested in. If, perchance, they do not already
have information on a specific model, they will let you know.

Good luck.

73,
Buck KC4GCK

2828. Re: 2 Watt Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: jones@San-Jose.ate.slb.com
Message-ID: <4m8sf3$j7v@k9.San-Jose.ate.slb.com>
Source record: 105660

Russell Chandler (rhchan@tsquare.com) wrote:
: Could someone point to a source for
: 2 Watt, 5% Tolerence, Carbon Composistion
: resistors.

Are you sure you have to have Carbon Decomposition resistors? If Carbon Film will work, Allied Electronics has them listed at $14.75 per pack of 200 (5%, 2watt, p. 465 of the catalog). Their number is 1-800-433-5700 and are on the web at http://www.allied.avnet.com. Be aware that the have a minimum order (it's confusing, I'm not sure whether it's $25 or $50).

Haven't done business with them in probably 15 years, but they were good back then. Just happened to have their catalog handy.

Clark

P.S. There was an article a couple years back in one of the professional mags that basically said that carbon comp's change resistance with age, sometimes dramatically.

--
Disclaimer: The opinions expressed above are mine and not those of Schlumberger because they are NOT covered by the patent agreement!

Phone: (602) 345-3638 Internet: jones@San-Jose.ate.slb.com
Packet:(not currently available) RF: KI7TU ICBM: 33 20' 44"N 111 53' 47"W
Snail: Clark Jones, Schlumberger Technologies, 7855 S. River Pkwy #116, Tempe, AZ 85284-1825

2829. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: rgrauman@compusmart.ab.ca
Message-ID: <rgrauman.35.003258B5@compusmart.ab.ca>
Source record: 105661

In article <4m4isk$hh8@crash.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
>From: jackl@pinetree.microserve.com (WB3U)
>Subject: Re: Anti-freeze in CanTenna???
>Date: Tue, 30 Apr 96 07:19:06 GMT

>Post / CC by Mail

> eganger@mindspring.com (Ed Ganger) wrote:

>>If I can't be convinced about antifreeze, what other options are
>>there for a coolant?

>>"mineral oil" from a pharmacy?

>Mineral oil was the factory choice in devices like the Cantenna. I can
>remember specifically reading warnings about not using motor oil for
>this, although I don't remember the reason.

>>(I would _really_ like to stay away from oil though ... it is
>>almost impossible to clean up!)

>Ethelyene glycol isn't much better and I don't know *anyone* who
>has used it for this purpose (maybe because it's poison)?

>My advice is to use the oil.

>73,
>Jack WB3U

The reason for not using motor oil is that it contains a detergent which will absorb water, decreasing the resistance and arc over distance of the oil. Use pure mineral oil. if water gets into the Cantenna, the water will collect on the bottom, and not cause as many problems as if it were absorbed by the oil. It seems to me that antifreeze would not be a good choice. If you can't get mineral oil, try hydraulic jack oil at an auto parts store. Most of the stuff I've seen is pure mineral oil.

73
RJG VE6BEJ

2830. Re: Broadband Noise Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.126.0012C815@azstarnet.com>
Source record: 105662

In article <4m8ajr$22@unlisys.unlisys.net> Gerhard Hoffmann <ghf@berlin.snafu.de> writes:
>From: Gerhard Hoffmann <ghf@berlin.snafu.de>
>Subject: Re: Broadband Noise Source
>Date: 1 May 1996 18:30:19 GMT

[bandwidth limited]

>Note that 15 dB is not enough for precision measurements since
>you need at least a 26 dB resisitive pad between the noise source
>and the device under test to force the noise generator impedance
>to EXACTLY 50 Ohms both if switched on and off.

Good idea, but where do you come up with the idea that you need 26 dB of pad?
This would calculate to a 52 dB return loss or an SWR of 1.003, but where do
you find a connector pair this good or even the resistors for the pad that are
that accurate? Hewlett-Packard does just fine with 10 dB on their 346 source.

>So sooner or later I'll end up paying NoiseCom the $20.

>Gerhard

As another post says, you can get the diode for $10.

73, Wes -- N7WS

2831. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: markem@primenet.com
Message-ID: <4m9afa$kl4@nnrp1.news.primenet.com>
Source record: 105663

Transformer oil is best if you can get a small qty. Mineral is fine but you have to de-rate the dummy load if you use high power (>500W) into it. Mineral oil doesn't stand up as well as xfrmr oil. The Cantenna has a chart for the de-rating. For the standard 100W rig, mineral oil is fine. I found it on sale at K-Mart for about a buck for a one pint bottle. The cashier gave me a wierd look when I bought eight bottles. Then I realized that mineral oil is used as a laxative...

Use of any other oil is probably not a good idea. Among other problems is that I believe that the additives in motor oil will attack the resistor. I wouldn't think antifreeze would be a very good choice either. It's toxic and really isn't a very good heat conductor unless it's diluted with water (a 60/40 antifreeze/water mix is supposedly best).

I think there's a discussion about this in the Handbook and in the Cnatenna manual.

73... Mark AA7TA

2832. Re: 2 Watt Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: rheiss@tuba.aix.calpoly.edu
Message-ID: <4m9bda$2h7@tuba.aix.calpoly.edu>
Source record: 105664

>P.S. There was an article a couple years back in one of the professional
>mags that basically said that carbon comp's change resistance with age,
>sometimes dramatically.

No kidding! I personally discovered one that was 1400% out of tolerance
while repairing a tube transmitter built in 1952. Four of today's
reliable 1/2 Watt film resistors in parallel sounds like a good bet.

Robert Heiss KO6KA
rheiss@calpoly.edu

2833. Re: W1FB QRP NOTEBOOK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: vk2esl@vk2djg.une.EDU.AU
Message-ID: <6030@vk2esl.ampr.org>
Source record: 105725

>Hi
> I'm just wondering if anyone has W1FB's QRP notebook. If so, please
>could you list the projects in this book, as I am thinking of buying it,
>but would like to know what I'm buying first!!
>
>
I have a copy and basicly it is 70 odd pages of pretty good stuff.
It has 6 chapters, (1) receiving (2) transmitting (3)qrp accessory
gear (4) qrp transceiving (5) The qrp workshop (6)qrp operating.
It is well laid out and is chock full of quite simple projects.
Hope thats a bit of help.

Steve

2834. Water Cooled Transmitting Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: turnerde@ccnet.com
Message-ID: <4m6plm$43m@ccnet2.ccnet.com>
Source record: 105726

I have a 4CW2000A which would be nice to use. This is a 4CX1000A in the water cooled version. The 4CW2000A has all the advantages of it's air cooled brother with the exception of water cooling.

Its' not easy dealing with water and high voltage together and few liquids have the heat absortion capability of H20. So, there are few, if any options. Distilled water has a resistivity of 10E6 ohm-cm. The tap water I've tested is on the order of 1E3 ohm-cm. Distilled water wouldn't offer enough resistance considering the short runs and high voltage involved. At the very least, it would present a healthy current draw in the plate circuit. Tap water is completely out of the question! This assumes that the cooling water comes in contact with ground, which is pretty much inevidable.

Another problem is that the cooling water is limited to 70C, so a boiler/evaporator lash-up isn't an option. Has anyone got a novel idea of how to get around this problem.

Don Turner, WA6WRX

2835. 6 meter plans needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: alap@ncw.net
Message-ID: <4m6orh$8ep@golden.ncw.net>
Source record: 105727

Hello one and all, our local homebrew club is looking for a 6 meter project to take on. We would like to find a good set of plans.

Thanks for everyones time

AL

--
---
alap@ncw.net

2836. Re: Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-01 00:00:00 UTC
From: smackay@epix.net
Message-ID: <NEWTNews.830939256.27182.smackay@epix.net>
Source record: 105728

In Article<8BF528A.0028001B54.uuout@hobbs.com>, <dave.formilan@hobbs.com>
writes:

> Does anyone a nifty circuit for a phone in-use indicator. The
indicator
> can be LED, neon or whatever. I just need something to light at each
of
> my phones that would tell the would-be phone user that the phone line
is
> being used.
>
> I lose more connections to the Internet when either my wife or
daughters
> picks up the phone and says sorry.
>
> I sure someone must have solved this problem without major rewining or
> adding a dedicated line.
>
> Thanks,
>
> Dave
> ---
> OLXWin 1.00a MSI - Connecting The World (tm)
>
>
> .....ooooo0OOOOo http://www.intac.com/~cono
>
> __,-----. ---+_________#_ The Roy Hobbs BBS sysop@hobbs.com
>
> |________| |__|__________} Node 1: 201-641-7307
>
> ooooo oo ~ ooO-O-O-O == oo\ Node 2: 201-641-3126
>
>
>
JADE Electronics makes one just as you described. Its a kit
for $11.00. A bit expensive but you only need to buy one
and clone the rest...
73
Scott

2837. Re: Pebble Crusher - Output problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996May2.125424.13080@ke4zv.atl.ga.us>
Source record: 105579

In article <4m5245$ros@dfw-ixnews6.ix.netcom.com> timhynde@ix.netcom.com(Tim Hynde ka8ddz qrp/Rochester, MI) writes:
>
>After building the swr meter and Pebble Crusher from the W1FB QRP book,
>I found that the power out of the TX was very low (~~10 mw) I started
>fooling around and removed some windings from the 31 turns of #26 on a
>T-50-6, this torroid is part of a filter on the output that comes right
>off the collector of a 2n4400, well, after removing about HALF the
>turns I had the power up to about 3/4 of a watt. (a bit more that the
>transistor is rated for I think).
>
>Whats happening here? clearly the inductance is half of what it should
>be, I am testing into 50ohms using carbon comp reistors, the signal at
>my rx seems to be chirp free and clean. The circuit is tuned for 40m.

Have you listened at the harmonics of the oscillator? It's likely that most of the energy is at a harmonic, and cutting the inductance in half is letting it pass to the load. That's why the filter is there, to stop harmonic energy. Your power meter isn't frequency sensitive so it doesn't care what frequency the signal is on, but you should.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2838. PAGERS WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: n1obu@mindport.net
Message-ID: <318931b7.5322989@news.mindport.net>
Source record: 105580

Hi..

I have the new EPROM upgrade for the KPC-9612 (7.0N) and am looking for some used pagers to test and experiment with. If you have any please drop me a message describing it and basically how much you want for it. I will consider all offers... I am looking for a small amount of them.. Thanks!

--73 de N1OBU@MINDPORT.NET

2839. Re: (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4mbaa8$c69@kocrsv08.delcoelect.com>
Source record: 105581

Hi Pierre-Andre;

I have not seen the circuit, but I suspect from your description that it is a regenerative, direct conversion detector, which is basically laid out the same as a common base amplifier. There is feedback in phase from the collector to the emitter, for regenerative amplification, mixing action in the base emitter diode, and emitter coupled audio output.

In the transmit mode, you would change the feedback either with biasing or thru removing the feedback capacitor. The Local Oscillator becomes the VFO, driving the output amplifier (now common emitter) at the same frequency as you were receiving on. The antenna remains coupled to the collector tank with no switching required. Sounds like a pretty sharp design!

73 de K9JDU

2840. Re: Water Cooled Transmitting Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: gbaker@mahi.bbn.com
Message-ID: <GBAKER.96May2121345@mahi.bbn.com>
Source record: 105582

> I have a 4CW2000A which would be nice to use. This is a 4CX1000A in the
> water cooled version. The 4CW2000A has all the advantages of it's air
> cooled brother with the exception of water cooling.

...

> Don Turner, WA6WRX

I have an Alpha 70 amplifier from the early 1970's that uses a 3CV1500A7 vapor cooled tube. Unfortunately, this tube is no longer available. The amp uses distilled water and Teflon tubing to isolate the B+ from the radiator system. The tube has a boiler top, a small connection for liquid water intake at the bottom of the boiler, and a large diameter connection at the top of the boiler for the steam.

Since I have only one working tube, I have been considering an alternative. Although an 8877 is a good match, I very much like the quiet operation of the water-based system and would like to use a similar tube. I would not mind having to add a pumping system for a water-cooled tube.

Are 4CW2000A's readily available, and about how much are they? Do you know of a water or vapor cooled triode in the same power range?

73,

Glenn Baker
WA2IWM

2841. 175 MHz oscillator ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <831085039102@humnet.humberc.on.ca>
Source record: 105583

Looking for a good proven design for a 175 MHz oscillator.
Stability is crucial.

I am presently considering a Butler osc. that produces a strong second
harmonic from an 87.5 MHz 5th overtone crystal and a bandpass filter
and a MMIC amp at the output.
I'm open to other suggestions...anyone !?

Thanks in advance...

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

2842. Re: Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <4mb4ad$76s@ka4ybr.netmha.com>
Source record: 105584

In article <NEWTNews.830939256.27182.smackay@epix.net>,
<smackay@epix.net> wrote:
>
>In Article<8BF528A.0028001B54.uuout@hobbs.com>, <dave.formilan@hobbs.com>
>writes:
>
> > Does anyone a nifty circuit for a phone in-use indicator. The
>indicator
> >
>JADE Electronics makes one just as you described. Its a kit
>for $11.00. A bit expensive but you only need to buy one
>and clone the rest...
>73
>Scott
>

Or you can put a diac in each line.
If one phone is off hook, there won't be enough
voltage to turn on the diacs at the other phones on.
The end result being that you can only use one phone
at a time.
-bob

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

2843. RE: Watercooled tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: Spencer Petri <spetri@e-tex.com>
Message-ID: <4m8u2s$7gt@e-tex.com>
Source record: 105665

Run them the normal way. For cooling use distilled water or if in a cold environment glycol. Make a coil of tygon tubing about 6 feet long and the end away from the tube go to metal connector and ground this to chassis. If any leakage develops this will be your safety net. Also you can isolate from ground with diode and put voltmeter there to read leakage.

73 de Pete WA5JCI

2844. KISS mode HELP !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: Alex Lam <alexl@mpce.mq.edu.au>
Message-ID: <31884B26.4B04@mpce.mq.edu.au>
Source record: 105666
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi all,
I am trying to have two modems talking to each other. Just then,
I have them talking with converse and transparent mode, but it didn't
working for KISS mode. In fact, they lost connection when I put them
into KISS mode.
I realise that I will no longer have AX.25 in KISS, but
I didn't expect they would lost connection !
Can anyone help ? Are there special instructions required ?

Your help will be very much appreciated. Thankyou.

Alex Lam

--

****
School of Mathematics, Physics, Computing and Electronics
| _ |\/| _ Macquarie University, Sydney 2109
|___|_|_| |_ , |-| L E X Ph: +61 2 850-9065
| | Fax: +61 2 850-9128
email: alexl@mpce.mq.edu.au

2845. Re: need help to understand Pixie 80m CW trscvr circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: oddjob@cix.compulink.co.uk
Message-ID: <Dqro2s.DHq@cix.compulink.co.uk>
Source record: 105667

Shame there are so few QRP 6m circuits..

Steve G7VFY.

2846. 813 Power ! How Much ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: l38217@alfa.ist.utl.pt
Message-ID: <4ma19b$e8u@ci.ist.utl.pt>
Source record: 105668

Hello all !
I've got a pair of 813 tubes, and I'm planning to build a
linear amp. to use on 160 to 10 meters band.
All I want to know is How much power can this tube provide and
what is the correspondent plate voltage to be used !

thanks !
Pedro Pedroso	
l38217@alfa.ist.utl.pt	CT1ELP
Eng. Electrotecnica e Computadores	Founder member of GPDX
(Telecomunicacoes e electronica)	

| Address: P.O.Box 116 , 2806 Almada Codex , PORTUGAL |

2847. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: turtle@wwa.com
Message-ID: <4ma675$m55@kirin.wwa.com>
Source record: 105669

I've used non detergent 30 weight motor oil for 4 years in my cantenna. I've used power levels up to 2300 watts for short periods of time with no problems.

"73" Gary KF9CM

2848. Philips TV audio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: Ahlgren@ncsbsr02ou.ntc.NOkia.COM
Message-ID: <3188FFEB@ncsbsr01ou.ntc.nokia.com>
Source record: 105670

John Young <john@comcirc.com.au> wrote:

>I recently arrived in Australia from the UK, together with UK
>standard Philips TVs and a video and I'm hoping to get them
>working over here. UK uses 6MHz audio, Australia has 5.5MHz
>(and a second audio channel at 5.75 I think). At the moment I
>can get video OK but the audio is not surprisingly very
>poor as it is right on the edge of the passband. I wonder if
>anyone has done this kind of mod and if it easy?

Hi John!

I have made a modification to a JVC video a couple of years ago.
The vcr had to be modificated so, that both Finnish (5.5MHz)
and Estonian (6.5MHz) audio carriers could be heard.
If I remember right, we just added another (6.5) ceramic filter
parallel to the original (5.5) and that's it! Maybe I can find the
original instructions an send them to you. With this mod, you
can watch the tv through the vcr normally. But if you modify the
tv too, and if your tv has no video signal input, then the vcr's
rf converter should be modified and that is a more complicated
operation. With this modification you should hear both audio
channels at the same time.

73, Jukka OH6SC

2849. Re: Pebble Crusher - Output problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <4magtn$dpi@mrnews.mro.dec.com>
Source record: 105671

In article <4m5245$ros@dfw-ixnews6.ix.netcom.com>, timhynde@ix.netcom.com(Tim Hynde ka8ddz qrp/Rochester, MI) writes...
>I found that the power out of the TX was very low (~~10 mw) I started
>fooling around and removed some windings from the 31 turns of #26 on a
>T-50-6, this torroid is part of a filter on the output that comes right
>off the collector of a 2n4400, well, after removing about HALF the
>turns I had the power up to about 3/4 of a watt. (a bit more that the

Well, in removing turns from the toroid, you are tuning the filter for a higher cutoff frequency. If you put the cutoff up past the 3rd harmonic (3x whatever freq. you're trying to transmit), then you will see a power increase in a simple wattmeter as it starts to read the fundamental + the harmonic power. All amplifiers generate harmonics unless they're class A linears, and even those have small but measurable harmonics and intermod distortion.

This being the case, you might want to re-check whatever comes before the final amplifier transistor - it seems to be putting out a lot of harmonics, and not much fundamental. Maybe it's clipping the waveform?

Is this a crystal oscillator circuit? Maybe you have the oscillator tank tuned to the 3rd overtone of the crystal (3x the crystal freq. - it will usually oscillate pretty well there if tuned to that freq.) Add some capacitance to the tank and see what happens.

>Whats happening here? clearly the inductance is half of what it should
>be, I am testing into 50ohms using carbon comp reistors, the signal at

Nope, 1/4 the inductance. Inductance on a toroid is proportional to the number of turns squared.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@est.enet.dec.com
==========

2850. Computer modem to TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: Trenton Selah <Birdman870@aol.com>
Message-ID: <3188E48B.792E@aol.com>
Source record: 105672

Does anyone know if it is possible to convert a computer modem to be used as a terminal node controller for packet?

Thanks
Trenton KF6BIE
Birdman870@aol.com

2851. Re: Broadband Noise Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <RvIA3DAJfOixEws2@ifwtech.demon.co.uk>
Source record: 105673

Gerhard Hoffmann wrote:
>I used the B-E junction of a BFR96S transistor in breakdown mode
>with good success. Other RF transistors shoud do.
>
>Excess noise was 15 dB if I remember correctly and it was flat to
>at least 2GHz as checked against a HP noise meter.

Many RF/microwave transistors will give at least 30dB excess noise (ENR) in this circuit.

>
>Note that 15 dB is not enough for precision measurements since
>you need at least a 26 dB resisitive pad between the noise source
>and the device under test to force the noise generator impedance
>to EXACTLY 50 Ohms both if switched on and off.

For measuring low-noise amplifiers at VHF and above, you're looking for about 5dB ENR. This is normally achieved by adding 25-30dB of attenuation after the noise diode, and this attenuation also reduces impedance variations when the source is switched on and off.

To avoid measurement errors, the main requirement is that the output impedance says the same. It's less important that the impedance is exactly 50 ohms. Therefore it's best to choose a diode (or reverse-breakdown B-E junction) with a high ENR, because that allows you to add more attenuation which keeps the output impedance more constant.

If you use a constant-current source (adjustable around 10mA) and make the unit capable of operating from a pulsed +28VDC supply, it will plug straight into a HP or AIL/Eaton noise figure meter to get a cross-calibration from a commercial noise source.

>
>So sooner or later I'll end up paying NoiseCom the $20.

As someone else said, they have an offer to hams for $10. To get 5db ENR with one of those diodes, I had to use about a 7dB attenuator made from chip resistors on microstrip, followed by a good-quality commercial 20dB N-type attenuator. Thus the on/off variation in return loss is at least 54dB.

The noise sources in the QST/Handbook article use a clever polarity-reversing system to keep the output impedance more constant. However, this is only needed if you require lots of noise and cannot use much attenuation. Also it is not compatible with the industry-standard +28V system. If you need only 5dB ENR, you can do it the easier way like HP.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

2852. Re: KISS mode HELP !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: Bob Nielsen <nielsen@primenet.com>
Message-ID: <Pine.LNX.3.91.960502102544.2185A-100000@nielsen.tus.primenet.com>
Source record: 105674
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

On Thu, 2 May 1996, Alex Lam wrote:

> Hi all,
> I am trying to have two modems talking to each other. Just then,
> I have them talking with converse and transparent mode, but it didn't
> working for KISS mode. In fact, they lost connection when I put them
> into KISS mode.
> I realise that I will no longer have AX.25 in KISS, but
> I didn't expect they would lost connection !
> Can anyone help ? Are there special instructions required ?

In KISS mode, the connection is established and maintained by the
software you use, not the TNC firmware.

Bob

Bob Nielsen Internet: nielsen@primenet.com
Tucson, AZ AMPRnet: w6swe@w6swe.ampr.org
AX.25: w6swe@wb7tls.az.usa.noam
http://www.primenet.com/~nielsen

2853. Re: THINNING HAIR?..STOP BUILDING RADIOS!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: carrob1@aol.com
Message-ID: <4maslp$evb@newsbf02.news.aol.com>
Source record: 105675

IS THERE SOME SORT OF RELATIONSHIP BETWEEN HOMEBREWING RADIOS AND HAIR LOSS I HAVEN'T HEARD ABOUT?

2854. Re: ANY HAMS OUT THERE ????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: dbwillia@uci.edu
Message-ID: <4mb412$b2p@news.service.uci.edu>
Source record: 105676
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <4m2lsb$d3o@lince.lander.es>, jorgegc@lander.es says...

>Hello dear friends:
>I would like to know if there are any hams in this system as I haveni¿½t
>seen any messages.
>By the way I would appreciatte to receive schemas, draws, sizes and
>way of construction on antennas for HF, both monobanders &
>multibanders, preferibly easy vertical or wire aerials.
>Please send your messages and info this way or even better by post to
>my address (QSL 100%) :

>LOOK FORWARD YOUR MESSAGES 73i¿½s

Sorry you haven't seen any messages in this system.

Try to view the newsgroup and you can find many discussions of simple
antenna.

Also, yes, there are many hams in this system.

Check out some of the listed url's for shematics and drawings.

Good luck,
Brian

2855. Re: Calling Australia

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4mb8h5$a6p@orange.iap.net.au>
Source record: 105677

DMedley@gnn.com (David MEDLEY) wrote:

>I would like to hear from any homebrewers in Australia. I need some
>help in procuring parts for a project I am working on.
>Lets hear from you Mates
>Regards
>Dave Medley

>David Medley

You really have my curiosity up! What would you
want from Australia that you can't get somewhere
else? We STARVE for goodies around here.

Uncle Brian VK6BQN

2856. Re: KISS mode HELP !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-02 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996May2.123431.12790@ke4zv.atl.ga.us>
Source record: 105678
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <31884B26.4B04@mpce.mq.edu.au> Alex Lam <alexl@mpce.mq.edu.au> writes:
>Hi all,
> I am trying to have two modems talking to each other. Just then,
>I have them talking with converse and transparent mode, but it didn't
>working for KISS mode. In fact, they lost connection when I put them
>into KISS mode.
> I realise that I will no longer have AX.25 in KISS, but
>I didn't expect they would lost connection !
> Can anyone help ? Are there special instructions required ?

KISS does not support AX.25. It is simply a channel management and
modem management protocol. When you put the TNC in KISS mode, you
have to do the layer 2 protocol (AX.25 link layer, slip, ppp, etc)
via software running on the host computer.

In other words, it is the AX.25 layer that supported the connected
mode link. When you go into KISS, you are no longer doing AX.25 in
the TNC so the link is lost.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2857. Re: Pebble Crusher - Output problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4mbm9f$jmj@nadine.teleport.com>
Source record: 105585

>In article <4m5245$ros@dfw-ixnews6.ix.netcom.com>
timhynde@ix.netcom.com(Tim Hynde ka8ddz qrp/Rochester, MI) writes:
>>
>>After building the swr meter and Pebble Crusher from the W1FB QRP book,
>>I found that the power out of the TX was very low (~~10 mw) I started
>>fooling around and removed some windings from the 31 turns of #26 on a
>>T-50-6, this torroid is part of a filter on the output that comes right
>>off the collector of a 2n4400, well, after removing about HALF the
>>turns I had the power up to about 3/4 of a watt. (a bit more that the
>>transistor is rated for I think).
>>
>>Whats happening here? clearly the inductance is half of what it should
>>be, I am testing into 50ohms using carbon comp reistors, the signal at
>>my rx seems to be chirp free and clean. The circuit is tuned for 40m.

Several others have given a good explanation of the probable cause. In addition, the "power meter" is likely measuring the peak voltage. With the filter mistuned, the peak value can be much higher than it would for a sine wave, also inflating the apparent power output.

A very good practice is to build a "half wave filter" which will have low loss and quite good attenuation of harmonics, and always attach it at the input of the dummy load/power meter. Then you'll know what the power at the fundamental frequency really is, and you can separate the functions of filtering (provided by the half-wave filter) and matching (which is what you're adjusting). A half-wave filter is made of two cascaded quarter-wave filters, so called because its impedance transformation is the same as that of a quarter-wave transmission line at the design frequency. A 50 ohm quarter-wave filter is simply a lowpass pi network with all reactances equal to 50 ohms. When you cascade two of them, you can combine the center capacitors into one with twice the value. When terminated with 50 ohms resistive, you see 50 ohms resistive at the design frequency when looking into the filter. This is a very low-Q filter, so loss is typically negligible. I make mine with small (T-37, T-44, or T-50 for up to 10 watts or so) toroids of type 6 or 2 powdered iron, and dipped mica capacitors. Good quality ceramics or polystyrene should be o.k. too.

See _Solid State Design for the Radio Amateur_ for more information about this type of filter.

Roy Lewallen, W7EL

2858. Re: Req: Circuit Plans for 1.7 - 2.6 GHz Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: jeffallb@gol.com
Message-ID: <3189623b.7392837@news.gol.com>
Source record: 105586

Kieth Swaney <kieths@ix.netcom.com> wrote:

I was intrigued by your posting because it sounds a lot like something I played with about 20 years ago when I was in high school. HBO had just moved into the area with a transmitter on at tower at 2150Mhz and I lived in the foothills of the mountains about 30 miles away. I built an oscillator using a Motorola BFR90 (or MRF901?)transister and a small length of hard coaxial line, cut to the approximate resonant wavelength, the center conductor was then bent to fine tune the frequency and the output power of the oscillator. The output of this went into a double balanced mixer made using a stripline design on G10 epoxy circuit board. The output was fed directly into a TV tuned to channel 2, since channel 3 was active in my area. No need for any RF modulator since all I did was mix the microwave signal down to about 50MHz for direct reception on the TV.

I experimented with coffee can antennas and horn antennas. Sitting on a hill with line of sight, I was able get a watchable TV signal from about 30 miles away. But what I found most interesting was that driving around in my car with 5 miles or so of the transmitter I could receive generally good signals regardless of buildings and other obstructions (although with extremely rapid fluctuations in signal strength.) This made me think that with a proper diversity antenna system I could achieve reliable mobile communications at that frequency.

Just as I came to that point, I found that I had to get a job and carry on with my "real" life. So, it has remained an unfulfilled dream of mine. Recently, I have been living in Tokyo and purchased one of the new Personal Handy Phones. They transmit a digital signal at around 2GHz and are very effective within several hundred meters of the base unit. I guess my dream caught up with me...

I don't have any documentation with me, but I think I have pieces of prototypes in storage in California. Please let me know if you think I can help with any questions, and I would be interested in what you come up with.

- Jeff Allbright

>Dear Sirs,
>
> Several years ago, I heard of a few homespunners throwing
>together a Folger's coffie can and a simple circuit with an RF modulator
>set at TV Ch. 3 and being able to tune into links between live news
>broadcasts and their home stations. Granted, in the 1.7 - 2.6 Ghz range

>one would have to be pretty line of site, however, it does seem possible.
> I am quite interested in this kind of project as an
>adventure/hobby of sorts, but can't find where to start. A search into
>Yahoo turned up empty, and Alta Vista had only one site selling a pre-fab
>'kit'. No adventure in a pre-constructed disassembled kit!
> If you have any info or leads, please e-mail:
>kieths@ix.netcom.com
>
>Thanks!
>
>-Kieth

2859. FS: NOS 6LQ6's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: keen@eden.com
Message-ID: <4mbs72$99c@boris.eden.com>
Source record: 105587

I have about 18 6LQ6's for sale. Most are new old stock, GE, RCA
and Westinghouse. A few are used. Make offers by email.

R.G.

2860. Grid Driven 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: ky1sme@nbnet.mb.CA
Message-ID: <31896427.B6F@nbnet.mb.ca>
Source record: 105588

I read of others interested in a 4-1000A HF amp using untuned grid drive. I have been using coffee stained 4-1000's (meaning well used pulls) for years in grounded grid configuration, and the economy of grid drive mentioned by others appeals to me as well.

Rick, K1BQT, commented on the merits of grid driven tetrodes in the summer 1993 issue of Communications Quarterly. This was in conjunction with the introduction of cheap ceramic tetrodes of Russian origin. Svetlana, the US marketing firm, currently offers, free for the asking, reprints of that article and one other from the Winter 1995 issue by W6FR. These are general discussions, devoid of specific construction details. The new Russians tubes are about one half the cost of similar ceramic triodes and tetrodes offered by Eimac. However, like others, I've got a few 4X1's, sockets, and chimneys waiting to be put to use.

There have been a number of articles on cathode driven 4X1000's in the past:
5 Band Kilowatt Linear, W4OQ, Ham Radio January 1974
Ecology Linear, W7DI, Ham Radio March 1972
Separate KW Amps for the Contestman, K9LKA & W6SAI, CQ July 1969
The 4-1000A in Grounded Grid, K9KLA, QST July 1963
Build a KW Linear, W6DL, 73 Magazine

and probably many others. These I have saved over the years. These sources provide a wealth of practicle data on the 4-1000A.

The original Eitel-McCullough data for the 4-1000a listed the following typical operating specs:

CLASS C TELEGRAPHY

DC PLATE VOLTAGE 6000 VOLTS (6000 MAX)
DC SCREEN VOLTAGE 500 VOLTS (1000 MAX)
DC GRID VOLTAGE -200 VOLTS (-500 MAX)
DC PLATE CURRENT 681 mA (700 MAX mA)
DC SCREEN CURRENT 141 mA
DC GRID CURRENT 41 mA
SCREEN DISIPATION 71 WATTS (75 WATTS MAX)
GRID DISIPATION 6.1 WATTS (25 WATTS MAX)
PEAK GRID INPUT VOLTAGE 348 VOLTS
DRIVING POWER 14.3 WATTS
PLATE POWER INPUT 4086 WATTS
PLATE DISSIPATION 746 WATTS (1000 MAX)
PLATE POWER OUTPUT 3340 WATTS
OUTPUT CAPAITANCE 7.6 uuF

The 4X1000A is a hot tube! And they like voltage. I run mine at 5KV.

QST for May 1977 ran an article by W2AIH entitled "An Ultramodern Linear Amplifier". This was a construction article describing a 4CX1500B using an untuned input circuit terminating the rf drive signal in a 50 ohm resister. The author stated that the 4CX1000A could be substituted for the 4CX1500B with changes in grid and screen voltages. This points to some flexibility in the circuit. These tubes are low-voltage high current types designed for AB1 or AB2, so they are a breed apart from the 4X1000a. However, the general configuration should offer a starting point for an HF 4X1000a amplifier utilizing untuned grid drive.

Also in QST for May 1966, The Stanley Steamer, by W6MJG a vapor cooled HF Amp using a 4CV1500B with untuned input circuitry terminated with 100 ohms. And "High Power Linear" by W6HHN again using a 4CX1500B with untuned input circuitry and a novel grid bias arrangement. "A Low-Drive, High Power All-Band Tetrode Linear Amplifier" by KN5S, CQ for July 1990 using untuned rf drive circuitry with a 4CX1000A. Finally, "Compact AB1 Kilowatt" by W6KEV in QST for November 1957 using a 4CX1000A with untuned rf input using a 100 ohm resister.

And you'll want to read "Protecting Power Tetrodes" by KN5S in QST for November 1989. Also "Understanding Tetrode Screen Current", by W6EMD in QST for July 1961.

As time permits I'm going to start experimenting with untuned rf input and the 4-1000a. If your're just starting out with a 4X1000a, know that Eimac specifies .6 in of water back pressure for cooling. Read and Heed! They will last almost forever in amateur service if you keep it cool. This means you need a 5 or 6 inch blower three inches wide running at 3000 rpm. Is it noisy? Yup. You'll know you have too much air when the tube blows out of the socket.

Lastly, has anybody done this already???

73 de Dennis KY1S

2861. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <4mbu32$5ga@excelsior.flash.net>
Source record: 105589

eganger@mindspring.com (Ed Ganger) wrote:

> Several years ago, I believe I read an article in QST about
>using ANTIFREEZE in a can-tenna instead of oil. According to the
>article, this would improve the dissipation considerably; apparetnly
>the water in antifreeze was not of significant leakage (no pun intended)
>to change the impedance appreciably.
Ed,
When I asked for transformer oil, the guy at the local (Dallas) Texaco
distribution center sold me Turbine oil. I don't know about turbines,
but I know that you can buy straight mineral oil for piston aircraft
engines. It "looks" and smells like mineral oil, and has been
working fine for 19 years at powers up to 1300 watts. We paid $15.00
for a 5 gal bucket full, split it 3 ways, and I still have a little of
it in the garage!
73,
Kerry

2862. Low Power EME Data Collection Experiments

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: mwcook@cris.com
Message-ID: <4mc2cu$ols@tribune.concentric.net>
Source record: 105590
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,uk.radio.amateur

Low Power EME Data Collection Experiments

de Mike, AF9Y

Introduction

The recent MoonNet discussions on low power EME has renewed my interest in development of an optimum waveform for the EME channel. Before the community settles on a particular waveform, we should first determine the channel characteristics. Important characteristics such as coherence bandwidth, selective fading and multipath are best determined by direct measurement with averaging over varying conditions. W3IWI, KA9Q and others have made astute theoretical statements concerning the impact of these perturbations on various modulation techniques. I believe there is an opportunity for the larger EME stations to collect data on the channel characteristics using their radio equipment and a PC equipped with sound card.

Data Collection Approach - Phase 1, Initial Experiments

For the first phase, we need recordings with the strongest signal possible via the EME path. The idea is to transmit various waveforms tailored to allow extraction of key channel characteristics. A one minute transmission is sent by one EME station and the resulting received audio is recorded at the second EME station. Post analysis of the recorded data should provide some interesting insight.

VE7BQH and I ran the first attempt at collecting data on April 28, 1996 using a PC program called TX55a. This program uses the sound card to generate audio waveforms that modulate the transmitter in SSB mode. I am releasing TX55a and its derivatives as a free public program. The program and the data collected from it is available from my webpage at: http://www.webcom.com/af9y.

In it's current form, TX55a provides the following:

- 1 Khz Tone (Transmitted every odd 4 second period)

This allows centering of the signal in the receiver passband and will be used as a reference signal during the test period.

- Narrow Band Spread Spectrum BPSK (Transmitted alternating even 4 second period)

This modulation is coded with a 63 bit Maximum Length Sequence (MLS) to allow extraction of channel delays beyond simple phase shifting. It is useful for multipath and channel coherence analysis. I

consider this waveform a candidate for weak signal modulation. TX55a transmits the "R" and "O" characters during the test. The main lobe bandwidth is 250 Hz.

- Multi Tone FSK (Transmitted alternating even 4 second period)

During this period, three simultaneous tones 1000 Hz, 750 Hz and 1250 Hz are transmitted. This waveform should provide insight into the selective fading aspects of the channel. Multi Tone FSK is a candidate for weak signal modulation and is being considered by W3IWI and KA9Q. The implementation of this modulation mode will likely require an update after W3IWI and KA9Q have had a chance to review it. I may not have captured their intent.

Data Collection Procedure

Lionel and I used the following procedure for the test:

1) Establish a 2mtr frequency just above 144.100 since this is SSB mode.

2) Using the program generated 1 Khz tone at the transmitter, tune the receiver for a 1 Khz receive signal

3) If available, rotate polarity for maximum signal. During our test, Lionel rotated his array through approximately 60 degrees during a 1 minute TX period of the 1 Khz tone. Using the FFTDSP42 program, the signal strength bar showed the best polarity position. This was an interesting side test that dramatically showed the advantage of polarity rotation. (I have include a picture of the results on my webpage)

4) Agree to a start time and record 1 to 2 minutes of the test transmission from the TX55a program. You can use FFTDSP42 to record the data as a WAV file. Just make sure the "R" button is red (active) and hit "SAVE" at the at the end of the test period before the signal image scrolls off the screen. If you are using another sound program for recording, I recommend you use a sampling rate of 8192 samples per second.

The stronger the signal, the better the analysis. I suggest that we strive for S/N ratios of at least 15 to 20 dB (100 Hz bandwidth). Each band will have different characteristics, so we need recordings for 144, 432 and above. If you email your recordings to me, I will post them on my webpage.

de Mike, AF9Y

http://www.webcom.com/af9y
Work: mwcook@itt.com
Home: mwcook@cris.com

2863. Information Needed!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: py3crx@sp-gw.py2bjo.ampr.ORG
Message-ID: <24501@SP-gw.ampr.org>
Source record: 105591

Hi all.

I still looking for information at the following items:

- CELLULAR PHONE PWR MODULE, LABELED FMC080802-20, REMOVED FROM A
NEC CELL-PHONE.
- 2SC1251, A NEC TRANSISTOR (SUPOSE TO BE A CLASS A UHF DRIVER, I THINK
I SAW IT AT SOME MOTOROLLA DATABOOK SOME YR AGO)
- IF THERE IS ANY CODE TO SMD TRANSISTOR AND DIODES/MIXERS SIMILLAR
TO THE ONE WE USE TO SMD (CAPACITORR AND RESISTORS).
- ANY SOURCE FOR SAW-FILTERS, 455KHZ OR 10.7MHZ, 40khz BW(NOAA/GOES/
METEOSAT DEVIATION).
- HRPT INFORMATION/SOFTWARE SOURCES.
- PATCH ANTENNAS THEORY (AND THEIRS YAGI-LIKE ASSEMBLY, SUCH AS USED TO
MMDS LNBY COMBINATION)

AND MORE:

- ANY RESULTS USING STANDARD TVRO KU-BAND FEEDERS AT 10.25GHz ASSOCIATED
TO THOSE 0.6...2.4 METER DISHES(0,33...0.36 F/D)?
- HOME-MADE FERRITE CIRCULATOR TO IN A 10.25GHz WAVEGUIDE: TO ALLOW MO-
DIFIED KU-BAND LNB AND GUNNPLEXER CONECTION(DUAL-PORT...)?
- ANY SUGESTION TO BUILD A 1.2/2.4GHz DIRECTIONAL COUPLERS, STRIP-LINE
ON PCB + SMA CONN + SMD BALANCE RESISTORS (-20...-30dB COUPLING
FACTOR)? MAY BE A MODEL 43 PLUS THE CORRECT PLUG-IN DETECTORS...BUT
HERE? THE DETECTOR WILL BE A TEKTRONIX 2714 SPECTRUM ANALYZER!

THANKS IN ADVANCE!

73 - Marcus Ramos - PY3CRX@SP-GW.AMPR.ORG - Sao Paulo - Brasil

2864. Need Quisck Cash? Try This, IT REALLY WORKS! - cash.zip (1/1)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: ttaylor@trib.com
Message-ID: <4mbnpf$1fj@news.tcd.net>
Source record: 105592
Body handling: Inline uuencoded payload not displayed: cash.zip

```
[Inline uuencoded payload not displayed: cash.zip]
```

2865. Some Antenna Trim Caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: redbone@juno.COM
Message-ID: <19960503.020937.7791.0.redbone@juno.com>
Source record: 105593

Antenna Trim Caps
10-90pF, 50V trim cap used to match antennas in auto radios, CB'ss,
transceivers, etc., 15/16" tall
X 1/2" wide with a 6-32 mounting hole. Stock# 0823-VC, 4?$1.00

Marlin P. Jones
P O Box 12685
Lake Park FL 33403-0685

407-848-8236
Order FAX 1-800-4 FAX YES

2866. Re: Grid Driven 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: Mark Mandelkern <kn5s@lascruces.com>
Message-ID: <4mccop$1ao@chile.lascruces.com>
Source record: 105594

Dennis -

Looks like an interesting project! I haven't used the 4-1000A, but had one on the shelf for years and did think a bit about it. The main difference, compared to the 4CX1000A, is the much higher grid bias, and thus higher driving voltage. You will not be able to put 50 ohms directly across the grid. I think I remember that I once calculated that 50 ohms at the input jack, then a 1:4 step-up ferrite xf, would result in reasonable drive power requirements. Or instead, 200 ohms at the grid might be even better. You'll have to work it out. Maybe you'll need 1:9, I forget. The screen voltage used will greatly affect the grid bias setting.

73, Mark KN5S

--
Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

2867. Re: Xtal filters - distortion, etc.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-0305960657460001@d159.w.interaccess.com>
Source record: 105595

In article <4m8gcm$k6u@mrnews.mro.dec.com>, randolph@est.enet.dec.com (Tom Randolph) wrote:

> In search of my current Holy Grail, a higher performance receiver, I ask: Can
> anyone enlighten me a bit and perhaps give some article pointers re: what
> happens to signals on their way through crystal filters?

One of the selling points for the single-signal, direct conversions receivers described in QST a few years ago was their clean audio - no disortion caused by a filter. I haven't quite finished building mine yet (another long-term project!) so can't give you an opinion based on experience.

Dave K9SW

--
Dave Moorman
Downers Grove
Illinois, USA Be big, don't belittle!

2868. Never Posted to a newsgroup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: awest@mail.net-connect.net
Message-ID: <4mctob$c03@news.net-connect.net>
Source record: 105596

```
Just testing my posting abilities. Please excuse!
```

2869. Measuring Microwave Frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <3189FC93.3571@arrl.org>
Source record: 105597

P.M. Snape at
>Organization: Electronic & Electrical Engineering, Loughborough.

wrote:

>
> could you please give me a idea what might be involved in
>
> making frequency measurements in the x-band 8 - 12 GHz.ideally to
>
> display the result on a digital frequency meter.i am an electronics
>
> technician by trade but with no microwave experience.
>
>The way we do it is to use an Hewlett Packard HP5351B frequency
counter that works up to 26.5 GHz. A microwave spectrum analyzer
can also be used, but typically with less accuracy. There is a
divide by 8 prescaler that works up to 12 GHz in the DUBUS Technik IV
(German/English language selection of technical reports). It uses an
expensive $300 chip, so its not for everyone.

Amateurs typically measure frequency with receivers and marker
generators. You tune in a known frequency and use it to calibrate
your dial. Markers can be either "official" frequency stations or
lower frequency reference oscillators multiplied up to the receive
frequency.

Another method is to use a low frequency receiver and a down converter.
By carefully measuring the oscillator frequency of the down converter
before it is multiplied up, as well as possible receiver offsets between
the dial and the actual frequency, one can calculate the exact frequency
of the signal. The advantage of this method is the excellent
sensitivity. It is quite possible to measure a -140 dBm signal.

Zack KH6CP/1

2870. CyberChat // CyberChat // CyberChat // CyberChat // CyberChat

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: Jyakobi@visinet.ca
Message-ID: <4mbng4$ol@kenya.visinet.ca>
Source record: 105598
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc, rec.radio.amateur.policy

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2871. Re: Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8311239392202@humnet.humberc.on.ca>
Source record: 105599

> VE7KNL Clinton Peebles wrote:
> >
> > A couple weeks ago I heard a story on CBC radio about a wind up radio
> > being manufactured in South Africa. Are these available in North
> > America? I'd like to get one. Maybe get the spring and generator out
> > of one and make a wind up QRP rig.
>
> Yes, Charles Lukey posted to rec.radio.swap
> Windup Technology 206-783-2880 FAX 783-8773
> 1-888-946-3871
> email 74301.2203@compuserve.com
>
> Sells for $149--I wondered how much they cost so I did a net search...
>
> Zack KH6CP/1

I've seen a little bit of discussion on this "wind-up radio" but
no real description. Anyone know what this is all about ?
(I suspect it's not to be confused with something like my daughter's
Fisher-Price wind-up music box !?!? :)

Curious !
Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

2872. Re: 6 meter plans needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8311239312001@humnet.humberc.on.ca>
Source record: 105600

> Hello one and all, our local homebrew club is looking for a 6 meter
> project to take on. We would like to find a good set of plans.
>
> Thanks for everyones time
>
> AL
> --
> --------------------
> alap@ncw.net

A good set of plans for a 6 meter what ?
Could you be more specific !
Receiver ? Transmitter ? Repeater ? Beacon ?

Hugh Duff VA3TO Toronto

 NFX v1.3 [000]

2873. Seattle Quake Story At Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4mdd58$ps5@news.accessone.com>
Source record: 105601
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

The 5.4 Seattle earthquake knocked out telephone and cellular communications systems, probably due to excessive call attempts. Amateur radio ARES and RACES nets went into operation immediately following the earthqauke.

A complete story is now available at Ham Radio Online at
http://www.accessone.com/~vbook/hronline.htm

As are the start of May 1996 articles.

Please come visit, its free and free of ads!

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

2874. Re: Grid Driven 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4mdeq8$bhv@newsbf02.news.aol.com>
Source record: 105602

Hi All,

The correct AB1 formula for a simple shunt grid resistance is: R= Eg^2 / 2Pdrv

A 50 ohm L pad can be calculated using ohm's law: .707bias / sqrt(p/50) = Rgrid. The input series R would of course be: 50 - Rgrid = Rs

With 90 watts and 56 volts of bias, 30 ohms of grid-cathode shunt resistance fed by a series 20 ohm resistor would provide both proper grid resistance and exciter loading.

Years ago I ran a pair of grid driven 4-1000A tubes, but scrapped the idea because of tuning and adjustment difficulties. AB1 grid driven amplifiers are tough to tune correctly, even the slightest amount of grid current or improper loading makes them poor IMD performers.

I eventually tried to run the 4-1000A's in the Collins circuit used in the 30L1, but was unsucessful due to less than sufficient catode to anode shielding. The only circuit that worked well was conventional grounded grid with screen and grid bias applied. There was some slight performance improvement over no screen or grid bias in grounded grid.

As with any tetrode, screen regulation and grid current in both grids was critical. As time passed I scrapped the 4-1000's in favor of a grounded grid triode. IMD performance and ease of adjustment improved greatly with this move.

Looking back on it all, there was almost no advantage for all the effort in building the screen and bias supply in the cathode driven 4-1000 configuration, althought it was easy to use and relatively clean even when slightly mistuned. The thing I wanted awas more power gain, but gain barely increased over a conventional grounded grid circuit with no screen or grid bias voltages.

The grid driven configuration gave greatly improved power gain, but was pretty fussy to tune properly on SSB. The largest problem was creation of IMD even when scope and meters appeared correct. I think the Collins circuit (used in the 30S1 4CX1000 amp) would have been the best circuit but the poor screen grid shielding in the 4-1000A's made regeneration a problem.

There are pros and cons to every circuit, and I guess the best choice depends on user goals. But the 4-1000A is a far cry from the 4CX1000 in operation and stability.

73 Tom

2875. Re: 4-1000A Grid Driven

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: viking@pacifier.com
Message-ID: <4mdkaj$m2m@news.pacifier.com>
Source record: 105603

turnerde@ccnet.com (Donald E. Turner) wrote:

>I'm considering an amplifier using the old 4-1000A, mostly because I have
>two of them. One of the disadvatages of these tubes is lower efficiency
>at plate potentials of 3kV and lower. Most designs use these in cathode
>driven configurations, probably because of circuit simplicity. I'm
>considering running one in a conventional grid driven mode in AB2.
>According to Eimac spec's a pair runs 3000 watts output with 4kV Vp,
>(I)idle 300mA & 1.2 A running, 500V Vscreen, -60 Vgrid and 140 Vpeak grid
>drive. Of course, a single would put out 1500 with half the idle and
>running current.

>A passive input circuit has definate advantages. It requires NO tuned
>circuits and is very stable because everything is a low impedance to
>ground. Most of the time one sees this approach with Eimac external anode
>tubes, probably because of their lower control grid bias requirements. If
>one does the math for 140 peak (peak drive req'd 4-1000A in AB2), the RMS
>drive required with a 100 ohm passive input (not a bad match) is 138
>watts. This is right in the ball park for most exciters and transcievers.

>The trade-off in this approach is building screen and bias supplies, but
>NO input tuned circuits, input bandswitch and bifilar wound filament
>choke. The drive requirement is roughly the same as in the cathode driven
>configuration.

>The question is simple. Does anyone have thoughts or experience as to
>this approach with this tube. Send some mail if you have thoughts.

Hi Don,

At one point in my amateur building career, I was contemplating the idea of running a 4-1000 in AB2 service. The problem as I saw it was how do you compensate for the impedance change when the grid transitions from negative to positive values. I guess passive grid would work but I was never quite sure about that. I had considered using a cathode follower circuit to try to compensate for such transitions but lost interest in the project. Anyway, that sounds like a great project. I have my chassis down in the basement with the two tubes I purchased for it. (One to use and a spare for later.)

Speaking of tubes, a good friend of mine who was also into homebrew linear amplifiers is liquidating his supply of various tubes. 1- 4-1000 Condition unknown, 1- 3-1000 new in box, 6- 3-500Z's new in boxes. If you know anyone that is looking for any of the above tubes please contact me at: viking@pacifier.com

Thanks,

Bob East
WA7RED

2876. Re: Ham-Homebrew Digest V96 #196

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: JFM001@DENTAL3.AB.UMD.EDU
Message-ID: <199605031945.PAA28986@comm1.ab.umd.edu>
Source record: 105604

In article <4m5245$ros@dfw-ixnews6.ix.netcom.com>
timhynde@ix.netcom.com(Tim Hynde ka8ddz qrp/Rochester, MI)
writes:
>
>After building the swr meter and Pebble Crusher from the W1FB QRP
book,
>I found that the power out of the TX was very low (~~10 mw) I started
>fooling around and removed some windings from the 31 turns of #26
on a
>T-50-6, this torroid is part of a filter on the output that comes right
>off the collector of a 2n4400, well, after removing about HALF the
>turns I had the power up to about 3/4 of a watt. (a bit more that the
>transistor is rated for I think).
>
>Whats happening here? clearly the inductance is half of what it
should
>be, I am testing into 50ohms using carbon comp reistors, the signal
at
>my rx seems to be chirp free and clean. The circuit is tuned for 40m.
>> Gary Replies:
>>Have you listened at the harmonics of the oscillator? It's likely that
>>is letting it pass to the load. That's why the filter is there, to stop
>>harmonic energy. Your power meter isn't frequency sensitive so it
>>doesn't
>>care what frequency the signal is on, but you should.

>>Gary

Are YOU SURE the toroid was the correct one and not just the SAME
COLOR bought at a ham fest? BE aware, TOROIDS OF THE SAME
COLOR ARE NOT ALWAYS THE SAME TYPE!!!!!! Unscrupulous
vendors, mfg's and others have taken toroids and painted them. So
either buy from the manufacturer or besure you know where the toroid
came from. Best to use a GDP , some windings (look up in the ARRL
Handbook for an inductance & freq) then find the dip to be sure!
Hope this helps others from falling prey!

John N3REY
Always QRP!

--
Gary Coffman KE4ZV | You make it, | Due to provider
problems
Destructive Testing Systems | we break it. | with previous uucp
addresses

534 Shannon Way | Guaranteed! | Email to
ke4zv@radio.org
Lawrenceville, GA 30244 | |

End of Ham-Homebrew Digest V96 #196
****

2877. Re: Want Mods for the Alinco DR-610T

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: donb@direct.ca
Message-ID: <4mdofq$d40@orb.direct.ca>
Source record: 105605
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <317FA402.1F22@email.sps.mot.com>, rswb30@email.sps.mot.com says...
>
>Does anyone know what the mods are for the Alinco DR-610T?

Yeah, remove the front panel from the radio, open up the front panel, cut red and blue wires, put everything back together, reset.

>Steve Fuller
>KB5FIP
>email address: rswb30@email.sps.mot.com
>Bus. phone: 512-891-3333
>home phone: 512-328-0309

Don Boekenkruger
donb@direct.ca

2878. Re: mods for IC-2400A to 9600bd ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: joopv@etprs.seas.ucla.edu
Message-ID: <4me4h5$1bd@tuegate.tue.nl>
Source record: 105606

Steve Lisle (vk2esl@vk2djg.une.EDU.AU) wrote:
> Can anyone help me with this.
> I have an ICOM IC-2400A duel band fm tranceiver and wish to
> use it with a 9600bd modem.
> Has anyone accomplished high speed mods for this radio or know
> where I might find the info?

My IC2400 is incredibly slow with rx-tx turnaround. In fact , its so slow that when i try to chat along at the local repeater in the rush hour, i find myself often talking 'stereo' with an other amateur, who thought the channel was free..

That, and also the fact that PLL modulated transceiver cannot be used for 9600bd packet usage, decided me to not even try te connect the 2400 to my packet system. The tx-rx turnaround time is even too slow for 1200 bd.

For 9600bd you need a turnaround time of at most 50ms. The IC2400 has more like 800 ms .

If you really want good performance on 9600bd, try to get IC275 / IC475 boxes. These are fast and give a very low bit-error rate. And they are expensive :-(

Joop
joopv@etprs.phys.tue.nl

2879. Re: Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.128.0015DA69@mindspring.com>
Source record: 105607

In article <8311239392202@humnet.humberc.on.ca> hduff@humnet.humberc.on.ca (Hugh Duff) writes:

>I've seen a little bit of discussion on this "wind-up radio" but
>no real description. Anyone know what this is all about ?
>(I suspect it's not to be confused with something like my daughter's
> Fisher-Price wind-up music box !?!? :)

No, this is a generator/clockwork that will power the SW receiver for about 30 minutes on a full wind-up. NO BATTERIES AT ALL!
The radio is so-so, the clockwork is fairly quiet, but seemingly only works for about 20 min on a wind-up. It is a neat concept; it is designed to get receivers into "under-developed" countries (read that as no 7-11 with spare batteries nearby) In those countries, the radio is quite a bit cheaper, and we, as "rich Americans" are subsidizing the cheap price in the third world.

I think I would like to have one of these "Baycomm" radios, as a conversation item... but for serious SWL I would get something else!

Regards,
Ed Ganger

2880. Re: Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <4mdlk5$b99@news2.inlink.com>
Source record: 105608

clinton.peebles@saloon.bcbbs.net (Clinton Peebles) wrote:

>A couple weeks ago I heard a story on CBC radio about a wind up radio
>being manufactured in South Africa. Are these available in North
>America? I'd like to get one. Maybe get the spring and generator out
>of one and make a wind up QRP rig.
> ��
> ⌐ Clinton Peebles VE7-KNL ⌐
> ⌐ SYSOP - Salmon Siding Saloon BBS - 604-357-9942 ⌐
> ⌐ Internet: CPeebles@saloon.bcbbs.net ⌐
> ⌐ Packet Radio: VE7KNL@VE7CW.#SEBC.BC.CAN.NOAM ⌐
> ��
>---
> ⌐ QMPro 1.53 ⌐ I can't see it, but it looks good!

Save your money Clinton, almost any DC motor is also a generator.
Pop apart that old Craig 4-track tape deck in your basement and one of
the kids toys for the spring and gearbox assembly.

TTUL
Gary

2881. Re: Computer modem to TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-03 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996May3.162400.18779@ke4zv.atl.ga.us>
Source record: 105609

In article <3188E48B.792E@aol.com> Trenton Selah <Birdman870@aol.com> writes:
>
>Does anyone know if it is possible to convert a computer modem to be
>used as a terminal node controller for packet?

Yeah. Just open the modem case, remove the circuit board, and toss
it. Now make a new circuit board with the proper kind of modem, NRZI
to NRZ converter, SIO, PTT circuit, and the proper kind of microcontroller
programmed with the TNC protocol, and fit it into the box.

Most telco modems today don't support Bell 202, so the modem part
has to be junked and replaced. Packet uses synchronous signaling
rather than the asynchronous signalling used by telco modems, so
you need a NRZI to NRZ converter and a SIO chip. Telco modems don't
have PTT circuits, though you might kludge the on-hook/off-hook relay
to work. And I don't know of anyone who has coded AX25 for the Z8, so
the microprocessor needs to be replaced with a Z80 so you can use
regular TNC code.

Now if you can find an old Bell 202 half duplex leased line modem
with no smarts, you can use that with software in the host to emulate
a TNC, ala Baycom, but it won't *be* a TNC. And you can use a modem
that supports Bell 103 on HF, if you can trick the smarts to get out
of the way, again with software on the host to emulate a TNC.

But if you want a real TNC, there isn't much in a telco modem you
can salvage except the case and the wall wart.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2882. Schematic for DTMF decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <457.6697T1137T2403@nycmetro.com>
Source record: 105610

Hi all, anyone have a schematic for a DTMF decoder? I'm looking for something with a LCD display to Translate and show DTMF's. Thanx

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2883. Re: Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: ianls@patrol.i-way.co.uk
Message-ID: <4mfdit$fia@hoima.i-way.co.uk>
Source record: 105611

dmiller@crl.com (Donald J. Miller) wrote:

>Clinton Peebles (clinton.peebles@saloon.bcbbs.net) wrote:
>: A couple weeks ago I heard a story on CBC radio about a wind up radio
>: being manufactured in South Africa. Are these available in North
>: America? I'd like to get one. Maybe get the spring and generator out
>: of one and make a wind up QRP rig.

>The company is "Windup Technology" and they are reachable by E-mail.

>Try 74301.2203@compuserve.com for info.

>Later,

>--
>---
>Don Miller
>dmiller@crl.com
>---

I've just got one of these radios. Cost abt 65 UK pounds, but that
high price is to subsidise the cost of manufacture and make the rx
cheaper for developing nations. Radio circuit MW,SW (3-12MHz or
6-18MHz depending on model) and FM 88-108 or 76-108 (depending...) RF
performance only just adequate! Generator abt 3 volts at 50 mA. 150mW
max! One wind-up lasts abt 30 minutes independent of load ie.if you
have it loud it still lasts the same time. Quite rugged and abt size
of a shoe box (but mostly empty as market research in Africa revealed
that the 'punters' wanted a BIG radio!) US models are said to come
with mains power adaptor !!!!!!!!!

--
Ian
ianls@patrol.i-way.co.uk

2884. Re: ADMS-1B Webpage wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: dougd@lrbcg.com
Message-ID: <4metlb$pko@news.dx.net>
Source record: 105612

darryl.linkow@grinder.com (DARRYL LINKOW) wrote:

>Hello all and thanks for reading this. A couple of weeks ago
>someone posted the Web Page for downloading the patch files for the
>latest version of the Yaesu ADMS-1B software. If you know that
>Website, please Email me or leave message here.
> 73, Darryl KE6IHA

> darryl.linkow@grinder.com

>---
> * OLX 2.2 * Darryl Linkow (818)346-5278 9 am - 5 pm PDT

http://www.cris.com/~lsbutler

Follow the Ham Links.

North Central Ohio Skywarn Info
http://www.amnorth.com/redbone/skywarn.html
http://www.amnorth.com/redbone/ham-page.html
http://lrbcg.com/dougd/antenna.htm

2885. Hello friends:

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: jorgegc@lander.es
Message-ID: <4mfa7k$9bg@lince.lander.es>
Source record: 105613
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Hello friends:

My name is Francisco and I am located in Valencia, which is a sunny
and warm city in the East coast of Spain, in the Mediterranean coast
of the country. The Ham scene over here is very interesting as you can
find Hams almost every day in the VHF band making FM or packet, and
also a lot of friends keen on HF.

This message is because I would like to get schemas, draws, sizes and
way of construction on antennas for HF (easy vertical or wire ones,
but also mobiles for 20 or 40 meters), so if you can help you can
write by post to EA5VD Francisco P.O.Box 123 E-46080 Valencia SPAIN,
or by E-mail, but please see if you can help.

As I have seen in the last days there is some activity on Internet
with Hams (most of them from the States), but it will be of great help
to know about WEBs of interest.

Write back soon !!!!!

73 s EA5VD

/|\
@ @
-----oOO-(_)-OOo----------
e-mail: jorgegc@lander.es

2886. Re: Measuring Microwave Frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: joopv@etprs.seas.ucla.edu
Message-ID: <4mfhtu$e4c@tuegate.tue.nl>
Source record: 105614

P.M. Snape at
>Organization: Electronic & Electrical Engineering, Loughborough.
>
> could you please give me a idea what might be involved in
> making frequency measurements in the x-band 8 - 12 GHz.ideally to
> display the result on a digital frequency meter.i am an electronics

For a few bucks you can buy obsolete outdoor units from satellite tv systems
These things mix an input signal of 10.5 - 12.8 GHz down to 900-2000 MHz.
The accuracy is quite good. The local oscillator is stable and accurate to
30 - 100 kHz.

Because the downlink sattv band is getting wider and wider, the old
outdoor units (LNB's) wich only cover a 500-750 MHz piece of the downlink
are being replaced by newer types that cover up to 2 GHz (like 10.7 to 12.7GHz)

But if you have enough money to spend : take a look at EIP Microwave Inc.
counters. Much cheaper than HP.

73,
Joop

2887. Re Broadband Noise Source to Tune Preamps ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <4mfil5$r1l@buffnet2.buffnet.net>
Source record: 105615

While we are on the subject here what is a good way to tune a preamp with one of these simple devices ? I have read about a one or two but I would like to know about experiences others have had.

daveb

2888. Re: 8031 microcntrlr ham apps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: bowman@montana.com
Message-ID: <4mg66o$dl8@maw.montana.com>
Source record: 105616

In article <4m3hms$h8k@dfw-ixnews5.ix.netcom.com>, timhynde@ix.netcom.com(Tim Hynde ka8ddz qrp/Rochester, MI) says:
>Anyone have any ham radio applications for the 80C32 / 8051
>microcontroller family? I am trying to learn the 8032 and would like
>some "usefull" programs to help with the teaching process.

CW encoding/decoding is a fairly useful workout, or even thing like the MFJ 'personal code tutor'. it'll give you some experience with the timers, lookup tables, and so forth.

or you could do a little DDS. the '51 can't really cut synthesis at a useful RF level, but audio output is the same technique, and a little easier to monitor.

2889. ITC Spectrum Analyzers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <4mgevh$dks@buffnet2.buffnet.net>
Source record: 105617

Greetings

Has anyone anything to say about ITC spectrum analyzers. I noticed
they stopped advertising in the popular ham rags. I'm considering one
of these over a HP-141T. Bad choice ???

Thanks

daveb

2890. 4-1000a Grid Driven Configuration

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: ky1sme@nbnet.nb.CA
Message-ID: <318BAC70.5A1B@nbnet.nb.ca>
Source record: 105618

There is an example of a grid driven 4-1000a in the 1985 ARRL Handbook. (Chapter 31, page 27) This unit is desgned for 6 meters but shows the general arrangement and power supplies. This general arrangement is similar to the 4CX1000 and 4CX1500B grid driven amplifiers in other literature.

73

Dennis KY1S

2891. Re: Measuring Microwave Frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996May4.133752.521@nad.com>
Source record: 105619

In article <4mfhtu$e4c@tuegate.tue.nl>, joopv@etprs.seas.ucla.edu () writes:
> P.M. Snape at
> >Organization: Electronic & Electrical Engineering, Loughborough.
> >
> > could you please give me a idea what might be involved in
> > making frequency measurements in the x-band 8 - 12 GHz.ideally to
> > display the result on a digital frequency meter.i am an electronics
>
> For a few bucks you can buy obsolete outdoor units from satellite tv systems
> These things mix an input signal of 10.5 - 12.8 GHz down to 900-2000 MHz.
> The accuracy is quite good. The local oscillator is stable and accurate to
> 30 - 100 kHz.
>
> Because the downlink sattv band is getting wider and wider, the old
> outdoor units (LNB's) wich only cover a 500-750 MHz piece of the downlink
> are being replaced by newer types that cover up to 2 GHz (like 10.7 to 12.7GHz)
>
> But if you have enough money to spend : take a look at EIP Microwave Inc.
> counters. Much cheaper than HP.
>
> 73,
> Joop

A few weeks ago at the Timonium hamfest I picked up an old HP5245L counter
and a 5255 3-12.5ghz plug in for it, for a total of $55. It works great,
if you don't mind the fan noise. And I kind of like the glow of the 8 digit
Nixie tube readout!

Cavity wavemeters, lke the HP 532, will get you within a few mhz. You should
be able to find these for $20-40. You'll need a diode mount for it too - another
$5-10.

BTW those old LNB's make pretty good 10gig LNA's, with a little tweaking.

Joe - AA3GN
--
Joe Landis - Systems and Network Manager - North American Drager - Telford, PA
landisj@nad.com ..speaking only for myself, of course..

2892. 8031 Micro Ham software.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8312599377601@humnet.humberc.on.ca>
Source record: 105620

* Additional "stuff".

The other day a fellow posted a want for Ham radio related software for
the Intel MCS-51 family of microcontroller.
I had a few others who replied to my offer along with the original poster
of the request so I sent along some sample programs to all who asked.
One of them was Bob Headrick, WA7OVU.
Bob, I sent the repeater controller code as you requested however it
got bounced back to me as undeliverable from your end. I have your
e-mail address as: bobh@hpcvsgen.cv.hp.com
If you can correct me if I have it wrong or you have an alternate e-mail
address I'll gladly send it to you again.

* I also dug out a couple of other 8031 programs that I wrote for those
who may be interested...here's what I have:

1/ BEACON.ASM A beacon transmitter keyer. A good primer...yer' most
basic port toggling routines.
2/ RPTR.ASM A simple repeater controller with CWID, timeout timer,
courtesy beep and false keying detect.
3/ SYNTH.ASM An MC145170 PLL/VCO synthesizer controller used to
replace crystals on a lowband GE Mastr Exec for 6m. The core of
talking to the synthesizer chip is the importance stuff here.
4/ BLKBOX.ZIP A controller to use Kenwood TM-741/742 RF modules as
standalone transceivers. This one is available from the ARRL
FTP/Web site from an article in Dec.'95 QEX.

All code written in PseudoCorp's PsuedoSam(TM) 51 assembler syntax but
conforms to and/or is easily modified for use with other assemblers.
I write this stuff for fun so no guarantees of integrity and no claims
to being the world's most proficient firmware author however all
programs have been tried and used. I might as well share them rather than
keeping it all hidden on my hard disk if it can be of help to someone.
Oh yes, I also have a beacon keyer program for the PIC micros if someone is
curious. (I'm now learning how to 'speak' Motorola !)

E-mail me if interested: hduff@humnet.humberc.on.ca

Regards...
Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

2893. R/S 49 MHz HT's ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <831261061502@humnet.humberc.on.ca>
Source record: 105621

Wondering if the Radio Shack 49 MHz walkie-talkies use separate
RX and TX crystals or 1 for TX only ?
I'd like to try and get one onto 6 meters to use as a repeater monitor
and occasionally try to access it.
Also appreciate any info from those who have done already done something
like this. HT model numbers appreciated.

Thanks in advance...

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

2894. test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: Sieb.Wichers@shadow.utero.cuci.nl
Message-ID: <bf4_9605051913@utero.cuci.nl>
Source record: 105622

```
. . o Hi rpa00@bi.swissptt.ch o o .

. . o 01-May-96 14:42:50, rpa00@bi.swissptt.ch told about test to All o . .

r> test
test 2u2

L8ter Mortician

..o<2O2>o..The Outer Limit HQ..o<2O2>o..
2 2
> The GraveYard +31-599-513335 <
. Sieb.Wichers@shadow.utero.cuci.nl .
/ /
'.o<2O2>o...o<2O2>o...o<2O2>o..o<2O2>o.'

--
UTERO InterNet Access
```

2895. Re: Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996May4.121558.23092@ke4zv.atl.ga.us>
Source record: 105623

In article <4mb4ad$76s@ka4ybr.netmha.com> rmd@ka4ybr.netmha.com (Bob Duckworth) writes:
>In article <NEWTNews.830939256.27182.smackay@epix.net>,
> <smackay@epix.net> wrote:
>>In Article<8BF528A.0028001B54.uuout@hobbs.com>, <dave.formilan@hobbs.com>
>>writes:
>> > Does anyone a nifty circuit for a phone in-use indicator. The
>>indicator
>
>Or you can put a diac in each line.
>If one phone is off hook, there won't be enough
>voltage to turn on the diacs at the other phones on.
>The end result being that you can only use one phone
>at a time.
>-bob

Yeah, you can do this is you don't mind massive RFI.

Putting diacs (or diodes) in the phone line is not a good
idea if you operate HF. (Or if your neighbor does.)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

2896. Re: Need Phone In-Use Light

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-04 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <4mgn90$3qj@ka4ybr.netmha.com>
Source record: 105624

In article <1996May4.121558.23092@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>In article <4mb4ad$76s@ka4ybr.netmha.com> rmd@ka4ybr.netmha.com (Bob Duckworth) writes:
>
>Yeah, you can do this is you don't mind massive RFI.
>
>Putting diacs (or diodes) in the phone line is not a good
>idea if you operate HF. (Or if your neighbor does.)
>
Only a problem if one doesn't take measures to deal with the RF.
A bit of 'C' will do in most cases.
-bob

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

2897. Re: KISS mode HELP !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: rdonnell@mail.eskimo.com
Message-ID: <DqxsuG.Gs9@eskimo.com>
Source record: 105529
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Alex Lam <alexl@mpce.mq.edu.au> wrote:

>Hi all,
> I am trying to have two modems talking to each other. Just then,
>I have them talking with converse and transparent mode, but it didn't
>working for KISS mode. In fact, they lost connection when I put them
>into KISS mode.
> I realise that I will no longer have AX.25 in KISS, but
>I didn't expect they would lost connection !
> Can anyone help ? Are there special instructions required ?

> Your help will be very much appreciated. Thankyou.

You've got a misconception as to the function of KISS mode. The purpose of KISS is to provide a way for a computer and software to be able to manage the mechanics of the connection, with the TNC providing only a minimal level of intellegence. All the TNC does is:

1) accept packets from the host computer and send them on the air, while making sure the channel is clear before keying the radio.
2) receiving all packets on the channel that don't have errors and passing all of them to the computer for it to process.

So - to use KISS mode, you have to have software running in the computer that implements the layer 2 protocol you wish to use on the air (typically AX.25). It can also implement other protocol layers above 2 by wrapping those packets in the layer 2 protocol. This is what KA9Q NOS and its variants do.

So - to summarize, a TNC in KISS mode does not exhibit any significant level of intellegence - the reason KISS is available is for those who wish to have the computer perform link management activities - i.e. do all the work...

Hope this helps.

Regards, Bob

2898. Re: 100 HZ PL Tone Oscillator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.130.0116CDF6@mindspring.com>
Source record: 105530

In article <4mhcvv$e7@excelsior.flash.net> kmiller@flash.net (Kerry Miller) writes:
>From: kmiller@flash.net (Kerry Miller)
>Subject: Re: 100 HZ PL Tone Oscillator?
>Date: Sun, 05 May 1996 05:07:58 GMT

>af104@detroit.freenet.org (Jeffrey L. Bauman) wrote:

>>Anyone seen any articles and/or circuits for a 100hz tone
>>generator I can use with some older 2 meter gear to access
>>some local repeaters?

>Jeff,
> I built a tone encoder many moons ago out of a 555. It was very
>simple and not filtered very well so it wasn't exactly "subaudible".
>Most repeaters passed the tone a little bit. It was a square wave so
>you couldn't turn it down as far and still have the decoder recognize
>it. Any data sheet or Radio Shack book will tell you how to do it.
>BTW, I used it on 110.9 mostly, but tried it from abt 80 hz to 150,
>worked fine.
>Good luck,
>Kerry
>WD5ABC

I think an Intersil 8038 would be a VERY GOOD part for this.

It is an RC oscillator with VCO, and triangle to sine wave
converter onboard. It is about $5 in onesies.
1 RC sets frequency, 2 R's set sinewave distortion level ...
untrimmed it is about 2% if i reall right, adjustable to
less than 1% (but who cares for PL).
You can get it at Jameco, and I think DigiKey has it in stock
as well. It is the chip that the less expensive sine-square-triangle
function generators are (is?) based on.

Regards,
Ed KB4ORA

2899. Re: Seattle Quake Story At Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: df@mnsinc.com
Message-ID: <4mip5r$cou@news1.mnsinc.com>
Source record: 105531
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,sci.electronics,rec.radio.pirates

He answered your question already in the post. The question to have
asked is,

Whay was this posted to rec.radio.shortwave?

df

george@sky.net (George) wrote:

>Why.They were not needed at that time.No one was killed.No phone lines
>were down.Government radio was working just fine.
>SO why?????

>vbook@vbook.com (Ed Mitchell) wrote:

>>The 5.4 Seattle earthquake knocked out telephone and cellular communications
>>systems, probably due to excessive call attempts. Amateur radio ARES and RACES
>>nets went into operation immediately following the earthqauke.

>>A complete story is now available at Ham Radio Online at
>>http://www.accessone.com/~vbook/hronline.htm

>>As are the start of May 1996 articles.

>>Please come visit, its free and free of ads!
>>
>>------------------------
>>Ed (KF7VY) and Kim (N7VPL) Mitchell
>>personal email to vbook@vbook.com
>>Visit Ham Radio Online, it's free! at
>>http://www.accessone.com/~vbook/hronline.htm

+ +
+ Dan Ferguson df@mnsinc.com +
+ Opinions herein expressed are not those of the donut store I patronize. +
+ +

2900. Re: Pebble Crusher - Output problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: Richard Hager <rhager@millcomm.com>
Message-ID: <318D1ACB.3080@millcomm.com>
Source record: 105532

Tim Hynde ka8ddz writes:
> >after removing about HALF the turns I had the power up to about 3/4 of a watt.
snip...
> >Whats happening here? clearly the inductance is half of what it should
> >be,--

Actually, the inductance is about a -quarter- of what it should be.

L is related to the -square- of the turns if I remember right.

In general, when building from a set of known-to-work plans, it's best not
to modify component values by 400% as your first troubleshooting step.
The problem is probably elsewhere.

Good luck!

Richard Hager

+ Ah-ha! Design Group, Inc. -
+ Precision CNC Technology, since 1991 -
+ 612-641-1797, Fax: 612-641-8681 -
+ "I just like to build stuff" So... -
+ for CNC info, don't email me, call -
+ or email Ah-ha! directly. Thanks! -
+ www.gdic.com/ahha email: ahha@gdic.com -

2901. Re: Seattle Quake Story At Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: zachb@netcom.com
Message-ID: <zachbDqy1Cp.4K4@netcom.com>
Source record: 105533
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

In article <4mia6i$4m0@alpha.sky.net> george@sky.net (George) writes:

>vbook@vbook.com (Ed Mitchell) wrote:
>
>>The 5.4 Seattle earthquake knocked out telephone and cellular communications
>>systems, probably due to excessive call attempts. Amateur radio ARES and RACES
>>nets went into operation immediately following the earthqauke.
>
>Why.They were not needed at that time.No one was killed.No phone lines
>were down.Government radio was working just fine.
>SO why?????
>

Didn't you read *any* of his message? He said that the quake *KNOCKED
OUT TELEPHONE AND CELLUAR PHONES*. Govt. radio would have been just a *tad*
overloaded at the time, so they probably needed and welcomed the help of
ARES and RACES. Also, you said that 'nobody was killed.' With
communications down, HOW WERE THEY SUPPOSED TO KNOW THAT???

--
zachb@netcom.com
zachb@odyline.com

2902. Re: Measuring Microwave Frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9604058313.AA831333415@mail.creo.bc.ca>
Source record: 105534

There was an interesting microwave frequency meter that used harmonic mixing in VHF Communications 3/1995.

The idea was to apply the incoming signal to a mixer, along with a tunable oscillator in the 500-1000 MHz range. Tune until you detect an IF signal, and make a note of your LO frequency and the IF output frequency. Shift the LO a small amount and note the amount by which the IF output frequency shifts.

Dividing the two shifts will tell you which harmonic of the LO is involved. The direction of the shift will decide USB or LSB. The design used a microcontroller to tune oscillators and do the arithmetic.

The result is 100 Hz resolution to many GHz, limited only by the frequency response of the mixer diode (and its mounting). The author had tested it to over 30 GHz and was looking for diodes that would go higher. An automated, generalised machine is a formidable undertaking, but I've used similar techniques with a tunable oscillator, a frequency counter, and pen and paper...

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

2903. Re: 100 HZ PL Tone Oscillator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: mattro@radware.net
Message-ID: <N.050596.170110.21@ppp0025.radware.net>
Source record: 105535

> I built a tone encoder many moons ago out of a 555. It was very
> simple and not filtered very well so it wasn't exactly "subaudible".
> Most repeaters passed the tone a little bit. It was a square wave so
> you couldn't turn it down as far and still have the decoder recognize
> it. Any data sheet or Radio Shack book will tell you how to do it.
> BTW, I used it on 110.9 mostly, but tried it from abt 80 hz to 150,
> worked fine.
> Good luck,
> Kerry
> WD5ABC

If you'd like to use this circuit, all you'd have to do is pass the output through a simple lowpass filter (couple of caps and a resistor) to change the square wave to a semi-clean sine wave.

Matt Roberts, KK5JY,
mattro@radware.net

2904. Re: ITC Spectrum Analyzers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: rrk@indirect.com
Message-ID: <4mj88l$skc@globe.indirect.com>
Source record: 105536

> daveb@buffnet.net (david james) writes:
> Greetings
>
> Has anyone anything to say about ITC spectrum analyzers. I noticed
> they stopped advertising in the popular ham rags. I'm considering one
> of these over a HP-141T. Bad choice ???
>
> Thanks
>
> daveb
>
>
>>>>
They (ITC) are still advertising in mags like Mobile Radio Technology. I've had a little touchy feely
with the units and they didn't play too bad. This was at a demo at a ham fest.

For my money, it would depend on what I wanted the unit for. If I needed portability, I'd buy the ITC.
But for all round bench work, the 141T/855x units are the best for the money. I have a 141T/8552B/8556A/8554B setup and wouldn't get rid of it for any money.

Richard Kendrick CET WA7TWI

2905. DTMF Decoder ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: s87c51@aol.com
Message-ID: <4mjso0$dob@newsbf02.news.aol.com>
Source record: 105537

Does anyone know of a DTMF decoder program that decodes the DTMF tones and displays them on the computer screen?

Must be freeware or cheap shareware., include the schematic in the program, and simple to built. Would also be nice if it saved the data to a file.

Hope I did not ask for alot?

Thanks!

2906. Re: Grid Driven 4-1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <318CE920.5D1E@arrl.org>
Source record: 105538

W8JI Tom wrote:

> Years ago I ran a pair of grid driven 4-1000A tubes, but scrapped the idea
> because of tuning and adjustment difficulties. AB1 grid driven amplifiers
> are tough to tune correctly, even the slightest amount of grid current or
> improper loading makes them poor IMD performers.

I wonder if this problem might be negated with a
simple microprocessor controlled tuning circuit?

A microprocessor might even be useful for grounded grid
amps--perhaps to automatically tune the input circuit with
relays. This could allow a higher Q PI input circuit without
having to worry about excessive mismatch to the driver.

> The grid driven configuration gave greatly improved power gain, but was
> pretty fussy to tune properly on SSB. The largest problem was creation of
> IMD even when scope and meters appeared correct. I think the Collins
> circuit (used in the 30S1 4CX1000 amp) would have been the best circuit
> but the poor screen grid shielding in the 4-1000A's made regeneration a
> problem.

The extra power gain is quite useful if you are
attempting to generate the cleanest signal that
technology allows.

Solid state class A driver amps can have good
high order IMD performance, but become impractical
much above the 10 watt level.

As Tom indicates, you want to use the best parts
for the job--which isn't always practical for those
on a budget. For instance, I've noticed that you
tend to get better IMD with higher voltage tubes.

What do you do if you only have a 2 kV supply?

Start over and get parts for a 3.5 kV amp?

Zack KH6CP/1 zlau@arrl.org

2907. HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: billp8@atl.mindspring.com
Message-ID: <318c1477.108916@news.atl.mindspring.com>
Source record: 105625
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I am attempting to homebrew a quad antenna. I have read Cubical Quad Antennas by W6SAI and the ARRL Antenna Book. Neither answers my question.

How do I connect one coax feedline to the multiple loops on the driven element?

Please explain in detail so that a dummy can understand.

Thanks in advance for your help.

Email would be appreciated.

Bill N4BVS
~~~~~~
Bill <billp8@atl.mindspring.com>
Marietta, Ga.
================== THIS TOO, SHALL PASS ==================
~~~~~~

2908. 100 HZ PL Tone Oscillator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: af104@detroit.freenet.org
Message-ID: <4mh98m$543@detroit.freenet.org>
Source record: 105626

Anyone seen any articles and/or circuits for a 100hz tone
generator I can use with some older 2 meter gear to access
some local repeaters?

Jeff
WB5KZW
Near Detroit
(810) 788-3210

Thanks!
--

2909. Re: 100 HZ PL Tone Oscillator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <4mhcvv$e7@excelsior.flash.net>
Source record: 105627

af104@detroit.freenet.org (Jeffrey L. Bauman) wrote:

>Anyone seen any articles and/or circuits for a 100hz tone
>generator I can use with some older 2 meter gear to access
>some local repeaters?

Jeff,
I built a tone encoder many moons ago out of a 555. It was very
simple and not filtered very well so it wasn't exactly "subaudible".
Most repeaters passed the tone a little bit. It was a square wave so
you couldn't turn it down as far and still have the decoder recognize
it. Any data sheet or Radio Shack book will tell you how to do it.
BTW, I used it on 110.9 mostly, but tried it from abt 80 hz to 150,
worked fine.
Good luck,
Kerry
WD5ABC

2910. Re: Seattle Quake Story At Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-05 00:00:00 UTC
From: george@sky.net
Message-ID: <4mia6i$4m0@alpha.sky.net>
Source record: 105628
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

Why.They were not needed at that time.No one was killed.No phone lines
were down.Government radio was working just fine.
SO why?????

vbook@vbook.com (Ed Mitchell) wrote:

>The 5.4 Seattle earthquake knocked out telephone and cellular communications
>systems, probably due to excessive call attempts. Amateur radio ARES and RACES
>nets went into operation immediately following the earthqauke.

>A complete story is now available at Ham Radio Online at
>http://www.accessone.com/~vbook/hronline.htm

>As are the start of May 1996 articles.

>Please come visit, its free and free of ads!
>
>------------------------
>Ed (KF7VY) and Kim (N7VPL) Mitchell
>personal email to vbook@vbook.com
>Visit Ham Radio Online, it's free! at
>http://www.accessone.com/~vbook/hronline.htm

2911. FS BIG 4 PIN SOCKETS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: centrak@en.com
Message-ID: <4mjr9g$kot@antares.en.com>
Source record: 105539

Gentlemen,
I have approximately 20, N.O.S. 4 pin sockets made by JOHNSON
for tubes such as the 211 (VT-4C) available at $15 a piece.

TNX
Mark Foltarz
KA4JVY

2912. Re: R/S 49 MHz HT's ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: mgarrett@prairienet.org
Message-ID: <4mjsml$9n9@vixen.cso.uiuc.edu>
Source record: 105540

In a previous article, hduff@humnet.humberc.on.ca (Hugh Duff) says:

>
>
>Wondering if the Radio Shack 49 MHz walkie-talkies use separate
>RX and TX crystals or 1 for TX only ?
>I'd like to try and get one onto 6 meters to use as a repeater monitor
>and occasionally try to access it.
>Also appreciate any info from those who have done already done something
>like this. HT model numbers appreciated.
>
>Thanks in advance...
>
>Hugh Duff VA3TO Toronto
>
Hugh:
The TRC-509's, single channel HT's that Radio Shack sells has separate
RX and TX crystals plus a 10.245 crystal for 2nd IF.
I have done the conversion and hope to get final writeup on how I did it
in the next couple of weeks posted.
Mostly it is merly a crystal and tune up to the unit is all it needs.

--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

2913. Ant Element Keepers - Need Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: markm@kdcol.com
Message-ID: <4mju7j$as9@kdcol.kdcol.com>
Source record: 105541

I decided to do a mod on a 432 antenna and find that I need to replace
the elment keepers as well. These are the type used on Cushcraft and
M2 antennas, I think. For 3/16th elements.

Anyone know a good source for these?

Thanks, 73, Mark

2914. WTB: Synths, Drum Machines & FX - analog or digital

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: gm371@cleveland.Freenet.Edu
Message-ID: <4mkl9r$8rs@madeline.INS.CWRU.Edu>
Source record: 105542

WTB: Synths, Drum Machines & FX - analog or digital

Arp, Akai, Boss, Buchla, Crumar, Chroma, EDP, EML, EMS, Korg, Moog, Oberheim,
Octave, PAIA, PPG, Roland, Serge, Sequential, Simmons, Yamaha, ETC...

* Older stuff With or Without MIDI
* Synthesizers - analog, modular, patchable, some digital, etc...
* Drum machines, Ryhthm units - analog
* Sequencers - CV & gate
* Converter units - MIDI to CV & gate, etc
* Sync units - Din Sync, etc.
* Effects processors - tube, analog, digital
* Vocoders
* Effects pedals

* Even Newer Stuff

* Also Wanted: Recording Gear - Mics, Pre-amps, Processors, etc...

* Anything else that falls under the electronic music realm...

Please write back with a description of what you have...
Thankyou.
--
6

2915. Radio Station Database Program Stand Alone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: Charles Bolland <chuck@flinet.com>
Message-ID: <318E27BD.1D66@flinet.com>
Source record: 105543
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc.,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.noncomm,rec.radio.scanner,rec.radio.swap

Sir,

It's still available. The IBM/DOS Broadcasting Radio Station Database Program for Longwave, Mediumwave, and Shortwave. Over 4,000 records included already. The program is completely read and write. Records can be added or changed. Sorts in many different formats both on your screen and printing.

If you would like a copy of the program, send your request to "chuck@flinet.com". Please include your MAILING ADDRESS - SNAIL MAIL. For example, your street number, city, state and zipcode. Also include your EMAIL address.

The program will be sent to you via EMail probably within 24 hour is not sooner. If you reqeust the program and havenn't received it in that period, check back with me. Sometimes things get lost on the internet.

Remember to send your address. Requests without a mailing address will not be acknowledge to save time on the internet. In the past requests without an address were reminded with a message. Usually, the reminder went unanswered anyway. If it wasn't, the reply was sometimes very rude.

This program is FREE! Everything works. It has many features and they all work, not like shareware where some of the features work and other don't.

Your Postal address and EMail address will be kept CONFIDENTIAL. I may in the future contact you via Snail mail with a description about the Voyageur Database program. That's it.

Hope to hear from you and best regards.

Chuck Bolland
P.O. Box 18402
West Palm Beach, FL 33416

chuck@flinet.com

2916. Re: R/S 49 MHz HT's ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: hduff@humnet.humberc.on.ca
Message-ID: <8313877814702@humnet.humberc.on.ca>
Source record: 105544

>
> In a previous article, hduff@humnet.humberc.on.ca (Hugh Duff) says:
>
> >
> > >Wondering if the Radio Shack 49 MHz walkie-talkies use separate
> > >RX and TX crystals or 1 for TX only ?
> > >I'd like to try and get one onto 6 meters to use as a repeater monitor
> > >and occasionally try to access it.
> > >Also appreciate any info from those who have done already done something
> > >like this. HT model numbers appreciated.
> > >
> > >Thanks in advance...
> > >
> > >Hugh Duff VA3TO Toronto
> > >
> > Hugh:
> > The TRC-509's, single channel HT's that Radio Shack sells has separate
> > RX and TX crystals plus a 10.245 crystal for 2nd IF.
> > I have done the conversion and hope to get final writeup on how I did it
> > in the next couple of weeks posted.
> > Mostly it is merly a crystal and tune up to the unit is all it needs.
> >
> > --
> > Mark Garrett mgarrett@prairienet.org
> > KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM
> >

Thanks for the reply Mark. R/S has a TRC-505 on sale up here in Canada
and I was thinking of picking one up. I will assume it has a similar
scheme to yours...unlike the old 27 MHz toy WTs that used an LC circuit
on RX.
Where did you get your crystals from and what were the specs
(3rd overtone, series or parallel cut, loading capactiance... ?)

Thanks again..Hugh..

• NFX v1.3 [000]

2917. Re: Measuring Microwave Frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: rtw@fuwutai.att.com
Message-ID: <4mkv0s$n5@nntpa.cb.att.com>
Source record: 105545

In article <3189FC93.3571@arrl.org>, zlau@arrl.org says...

>Another method is to use a low frequency receiver and a down converter.
>By carefully measuring the oscillator frequency of the down converter
>before it is multiplied up, as well as possible receiver offsets between
>the dial and the actual frequency, one can calculate the exact frequency
>of the signal. The advantage of this method is the excellent
>sensitivity. It is quite possible to measure a -140 dBm signal.
>
Another source for a cheap downconverter is a radar detector. My Uniden
detector uses a DRO, much like the X-band satellite converters. I bought it
at Wal-Mart for $30...

Rob WB8WQA

2918. Re: Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: clinton.peebles@saloon.bcbbs.net
Message-ID: <9605060637355901@saloon.bcbbs.net>
Source record: 105546

```
H>I've seen a little bit of discussion on this "wind-up radio" but
H>no real description. Anyone know what this is all about ?
H>(I suspect it's not to be confused with something like my daughter's
H> Fisher-Price wind-up music box !?!? :)
```

Not at all. It's being manufactured in South Africa for 3rd world countries. Batteries are very expensive (something like a days pay) and this radio doesn't require batteries. I have sent for the brosure and will e-mail you when I get it. They were also talking about a wind-up flashlight and wind-up computer. You wind up a spring and it turns a small generator inside.

2919. WABASH INDIANA HAMFEST HOMEBREW CLASSIC 701A KILLOWATT AMPLIFIER

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4ml8qc$htm@kocrsv08.delcoelect.com>
Source record: 105547

I saw a real nostalgia item yesterday at the Wabash Indiana Hamfest. It was already sold when I saw it, or I would have probably bought it myself! I hope whoever bought it will both appreciate it and have fun with it.

I wonder if anyone on the net knows anything about its history, and who built it. It was very well done. - a pair of WE701-A tubes, with blower, chimneys, B&W Pi-net, 6KV tuning capacitor, and 4-866 rectifier tubes mounted in a small rack which had the top half, sloping panel space empty. It had a very heavy plate transformer in an odd, flat, circular configuration.

Whoever built it up did a very good job. I suspect that some of the shielding panels had been removed. At any rate it was neat to see an actual implementation of the WE701-A. Years ago every surplus store had a 701 hanging in its shock mounting shipment frame in the window, and a lot of articles on surplus equipment suggest its use as a PA, but I have never actually seen one in use!

Vy 73

K9JDU

2920. Re: Re Broadband Noise Source to Tune Preamps ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: flanders@groupz.net
Message-ID: <4mlimm$1u6@news1.sunbelt.net>
Source record: 105548

daveb@buffnet.net (david james) wrote:

>While we are on the subject here what is a good way to tune a preamp with
>one of these simple devices ? I have read about a one or two but I would like
>to know about experiences others have had.

>daveb
==========
When I recently had to re-tune a 70 cm preamp after replacing the RF device with one of a different kind, I rigged up a noise generator using a common 1N4005 silicon power diode. It obviously worked well enough for tune up purposes- I was getting adequate noise in the receiver, but I was having trouble switching the generator's drive voltage on and off manually while simultaneously trying to make the preamp adjustments.

I was using a 500 ohm limiting resistance in the diode's circuit, so I knew the current requirement was very low. It occurred to me that maybe the output of my old HP 202A low-frequency function generator could drive the thing to get a pulsing noise output. I hooked it up using square wave output, and set the frequency to about 4 HZ (in other words, the HP 202A was acting as a power supply pulsed at 4 Hz).

What I heard coming from the receiver sounded like a "CHOO-CHOO" locomotive in the distance. Varying the generator's output level gave me control over the noise level, and I was quickly able to do the several iterative adjustments required in the preamp, lower the noise generator drive level, and repeat.

I was surprised at how well the "CHOO-CHOO" audio effect worked. It was very easy for my ear to hear the difference between the artificial noise and the background noise and maximize the difference, while ignoring the absolute levels.

Supplying a similar noise generator from a simple 555 oscillator targeted at 4 HZ would work as well, I expect.

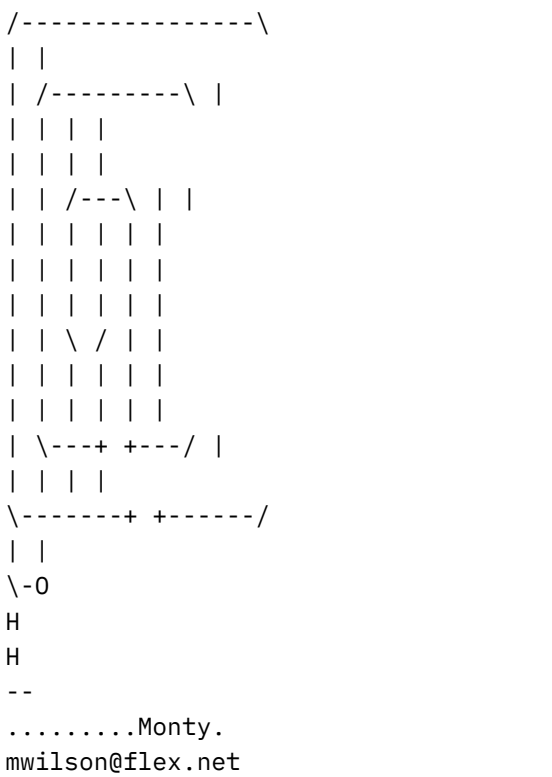
Jerry Flanders W4UKU flanders@GroupZ.net

2921. Re: HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: Monty Wilson <mwilson@bangate.compaq.com>
Message-ID: <Dr05Bv.Ks6@twisto.eng.hou.compaq.com>
Source record: 105549
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

billp8@atl.mindspring.com (Bill Poston) wrote:
>I am attempting to homebrew a quad antenna. I have read Cubical Quad
>Antennas by W6SAI and the ARRL Antenna Book. Neither answers my question.
>
>How do I connect one coax feedline to the multiple loops on the driven
>element?
>
>Please explain in detail so that a dummy can understand.

I believe you just tie them together:



--
.........Monty.
mwilson@flex.net

2922. Q: Transceiver kit reviews

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: bpaul@qualcomm.com
Message-ID: <bpaul-0605961455560001@wpaul-mac.qualcomm.com>
Source record: 105550
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I am considering purchasing a kit for a 2m transceiver and/or 70cm transceiver.
Before I buy anything, I would like to hear any comments and experiences
with various kits. If I get more than a few responses, I will post the
results.

*What kit did you buy (manuf./model #)?

*Was there adequate documentation (schematic, block diag., parts layout,
theory of operation, etc.)?

*How was the PCB (single-sided, multi-layer, silk screen labeling)?

*Overall rating of your kit (1-10, poor to great)

*Where can I get more info on your kit?

*Any other comments?

Thank you for your time and comments
-BP

Bill Paul KF6BBL San Diego,CA bpaul@qualcomm.com

2923. Re: Wind up radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn4osvhe.147.mulveyr@ll.aa2ys.ampr.org>
Source record: 105551

On Mon, 6 May 1996 13:31:00 GMT, Clinton Peebles <clinton.peebles@saloon.bcbbs.net> wrote:
>
>H>I've seen a little bit of discussion on this "wind-up radio" but
>H>no real description. Anyone know what this is all about ?
>H>(I suspect it's not to be confused with something like my daughter's
>H> Fisher-Price wind-up music box !?!? :)
>
>Not at all. It's being manufactured in South Africa for 3rd world
>countries. Batteries are very expensive (something like a days pay) and
>this radio doesn't require batteries. I have sent for the brosure and
>will e-mail you when I get it. They were also talking about a wind-up
>flashlight and wind-up computer.
^^^^^^^^^^^^^^^^^^
And Apple licensed the Mac OS just in time, too!

;-)

Rich Mulvey, aa2ys Rochester, NY USA
mulveyr@vivanet.com
aa2ys@net.wb2psi.ampr.org
aa2ys@wb2psi.#wny.ny.us

2924. Re: Seattle Quake Story At Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: Don Skidmore <dskidmo@halcyon.com>
Message-ID: <318E8ECD.78F0@halcyon.com>
Source record: 105552
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

Zachary Babayco wrote:
>
> In article <4mia6i$4m0@alpha.sky.net> george@sky.net (George) writes:
>
> >vbook@vbook.com (Ed Mitchell) wrote:
> >
> >>The 5.4 Seattle earthquake knocked out telephone and cellular communications
> >>systems, probably due to excessive call attempts. Amateur radio ARES and RACES
> >>nets went into operation immediately following the earthqauke.
> >
> >Why.They were not needed at that time.No one was killed.No phone lines
> >were down.Government radio was working just fine.
> >SO why?????
> >
>
> Didn't you read *any* of his message? He said that the quake *KNOCKED
> OUT TELEPHONE AND CELLUAR PHONES*. Govt. radio would have been just a *tad*
> overloaded at the time, so they probably needed and welcomed the help of
> ARES and RACES. Also, you said that 'nobody was killed.' With
> communications down, HOW WERE THEY SUPPOSED TO KNOW THAT???
>
> --
> zachb@netcom.com
> zachb@odyline.com

Well--
I was there. There were a few isolated outages for a short period, and some
delayed dial tones (People calling each other to ask "What was that?!". I turned
on my monitor--it was actually relatively quiet.

I'm really glad hams are available to help. They perform extremely valuable
services during emergencies. This one was more in the nature of one hell
of a wake-up call rather than a catastrophe (except for a small number of
folks who did have serious damage).

I thought the account was a bit overblown under the circumstances.

Just my $.02

Don
Bellevue, WA

2925. Re: Seattle Quake Story At Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: "John E. Kuslich" <johnk@indirect.com>
Message-ID: <318E8CC6.4CCD@indirect.com>
Source record: 105553
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

Don Skidmore wrote:
>
> Zachary Babayco wrote:
> >
> > In article <4mia6i$4m0@alpha.sky.net> george@sky.net (George) writes:
> >
> > >vbook@vbook.com (Ed Mitchell) wrote:
> > >
> > >>The 5.4 Seattle earthquake knocked out telephone and cellular communications
> > >>systems, probably due to excessive call attempts. Amateur radio ARES and RACES
> > >>nets went into operation immediately following the earthqauke.
> > >
> > >Why.They were not needed at that time.No one was killed.No phone lines
> > >were down.Government radio was working just fine.
> > >SO why?????
> > >
> >
> > Didn't you read *any* of his message? He said that the quake *KNOCKED
> > OUT TELEPHONE AND CELLUAR PHONES*. Govt. radio would have been just a *tad*
> > overloaded at the time, so they probably needed and welcomed the help of
> > ARES and RACES. Also, you said that 'nobody was killed.' With
> > communications down, HOW WERE THEY SUPPOSED TO KNOW THAT???
> >
> > --
> > zachb@netcom.com
> > zachb@odyline.com
>
> Well--
> I was there. There were a few isolated outages for a short period, and some
> delayed dial tones (People calling each other to ask "What was that?!". I turned
> on my monitor--it was actually relatively quiet.
>
> I'm really glad hams are available to help. They perform extremely valuable
> services during emergencies. This one was more in the nature of one hell
> of a wake-up call rather than a catastrophe (except for a small number of
> folks who did have serious damage).
>
> I thought the account was a bit overblown under the circumstances.
>
> Just my $.02
>
> Don

> Bellevue, WA

I second the motion. HAMS have always performed valuable services
during emergencies.

One the most key elements of recovery from almost any disaster is
communications. The HAMs perform a service like that of small
independent businesses and agencies do in our market driven economy when
the big government agencies fall flat on their behinds.

My $.02

John E. Kuslich

--
John E. Kuslich WPcrak for Wordperfect
johnk@indirect.com WDcrak for MS Word
Password Recovery EXcrak for MS Excel
602 863 9274 voice QPcrak for Quattro Pro
602 548 1993 fax LOcrak for Lotus 123
Password Removal QWcrak for Quicken
Our WEB Site http://www.indirect.com/www/johnk/
>>>>>>>>You Hack'em, We CRAK'em<<<<<<<<<<<<

2926. Re: DTMF Decoder ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: kj4uo@aol.com
Message-ID: <4mm97c$8l0@newsbf02.news.aol.com>
Source record: 105554

The best DTMF decoder I have seen yet was one designed by PDRUNEN@AOL.COM.
I
built his design and used his program with no problem at all. I used it
to
monitor the telephone calls going over my repeater. There as a fellow
that
was using my machine to make long-distance phone calls. Shame! Shame!
cost
me about 20 bucks before I could catch him. Turned out he did not have a
ham
ticket too!

Anyway, The program can be loaded off the internet via FTP, to get there
ftp
to

ftp.users.aol.com
login as "ftp"
password "Your e-mail Address"
then cd /pdrunen
then cd /DTMF "use the upper caps"
then get dtmf_v11.exe

Run dtmf_v11 and it will unpack into five files, dtmf_v11.exe, dtmf_1.gif,
dtmf_2.gif, parts.txt and schemat.txt. You will also need a GIF viewer to
view the schematics, there is a good viewer call vugraf13.zip also located
at
this ftp site. I also believe PDRUNEN will sent it to you over the
internet
if you e-mail him at PDRUNEN@aol.com.

Hopes this help, also check this months issue of Nuts and Bolts.

KJ4UO

2927. Re: Schematic for DTMF decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: kj4uo@aol.com
Message-ID: <4mm97l$8l5@newsbf02.news.aol.com>
Source record: 105555

The best DTMF decoder I have seen yet was one designed by PDRUNEN@AOL.COM.
I
built his design and used his program with no problem at all. I used it
to
monitor the telephone calls going over my repeater. There as a fellow
that
was using my machine to make long-distance phone calls. Shame! Shame!
cost
me about 20 bucks before I could catch him. Turned out he did not have a
ham
ticket too!

Anyway, The program can be loaded off the internet via FTP, to get there
ftp
to

ftp.users.aol.com
login as "ftp"
password "Your e-mail Address"
then cd /pdrunen
then cd /DTMF "use the upper caps"
then get dtmf_v11.exe

Run dtmf_v11 and it will unpack into five files, dtmf_v11.exe, dtmf_1.gif,
dtmf_2.gif, parts.txt and schemat.txt. You will also need a GIF viewer to
view the schematics, there is a good viewer call vugraf13.zip also located
at
this ftp site. I also believe PDRUNEN will sent it to you over the
internet
if you e-mail him at PDRUNEN@aol.com.

Hopes this help, also check this months issue of Nuts and Bolts.

KJ4UO

2928. Motorola RF Handbook - Online!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: aor <aor@gteais.com>
Message-ID: <318E8449.641A@gteais.com>
Source record: 105556

I found the RF handbook online at:

http://motserv.indirect.com/rf/rfhome.html

It is slow, as all of the pages appear to be presented as images.
Nevertheless, it is online.

Al, NW2M

2929. Help! PIN diode TR switch

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-06 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerk-0605961753290001@10.0.2.15>
Source record: 105557

I lost my info on this last time I asked (about 2 years ago!)... looking for info for a PIN diode TR switch for HF, capable of working with a 140 watt PA I've built from the CCI kit. Diodes... application notes... distributors who deal in small quantities... the works.

Best I've found so far is my old 1988 Handbook using Unitrode 1N5767 diodes -- the article says it's good for 100 watts...

: John Seboldt \ Duke Ellington on CW: It don't mean a thing
: rohrwerk@netcom.com | Ham: K0JD \ If it ain't got that swing!
: Minneapolis, MN USA | Music Dir., \ Didah, didah, didah, didah,
: Church of the Annunciation \ ....

2930. Re: Seattle Quake Story At Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: dpm3@dpm3.seanet.com
Message-ID: <dpm3.1080.0007BDCE@dpm3.seanet.com>
Source record: 105479
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

In article Don Skidmore <dskidmo@halcyon.com> writes:

:>I was there. There were a few isolated outages for a short period, and some
:>delayed dial tones (People calling each other to ask "What was that?!". I
:turned>on my monitor--it was actually relatively quiet.

:>I'm really glad hams are available to help. They perform extremely valuable
:>services during emergencies. This one was more in the nature of one hell
:>of a wake-up call rather than a catastrophe (except for a small number of
:>folks who did have serious damage).

:>I thought the account was a bit overblown under the circumstances.

I was there too, Don and I agree. It was grossly overblown and the Ham
Radio Online story echoed the silliness with which the local media handled
the non-event. Hysteria and anxiety make some people seem much more imprtant
than boredom and business as usual.

>Just my $.02

>Don
>Bellevue, WA

```
==========================================================================
Dan Morisseau, N7ZXL| I root for 2 teams - The St. Louis Cardinals ...
47.28N/122.50W/300'| and whoever is playing against the New York Mets!
dpm3@dpm3.seanet.com|
==========================================================================
```

2931. Re: Wind up radio followup

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: clinton.peebles@saloon.bcbbs.net
Message-ID: <9605071415245905@saloon.bcbbs.net>
Source record: 105480

Here is the info I got from my question on the windup radio.

Windup Technology 206-783-2880 FAX 783-8773
1-888-946-3871
email 74301.2203@compuserve.com

2932. Re: HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: root@jackatak.theporch.com
Message-ID: <Ha0JND1w165w@jackatak.theporch.com>
Source record: 105481
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Monty Wilson <mwilson@bangate.compaq.com> writes:

> billp8@atl.mindspring.com (Bill Poston) wrote:
> >I am attempting to homebrew a quad antenna. I have read Cubical Quad
> >Antennas by W6SAI and the ARRL Antenna Book. Neither answers my question.
> >
> >How do I connect one coax feedline to the multiple loops on the driven
> >element?

> I believe you just tie them together:
>
> /----------------\
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> | /---------\ |
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> \-O
> H
> H

Ah, there is a "minor" problem here... the quad *loop* is inherently a balanced confriguration, whereas coax is unbalanced...

The "usual" solution is to wind a 4:1 balun on a toroid core... plans in ARRL Handbook or Antenna Handbook, among many other sources, so I shan't bore you with winding details... it isn't rocket science, and you CAN wind your own successfully with minimum effort.

Why 4:1??? Because the impedance of the loop is (theoretically) in excess of 200 ohms, so a 4:1 balun presents a good match to 50/52 ohm coax... and, your quad should play very nicely with the balanced feed connected more or less as shown above. I am merely suggesting a balun to make it work better than just attaching the sheild to one side and the center to the other...

--
73,
Jack, W4PPT/M (75M SSB 2-letter WAS #1657/#1789 -- both from the mobile! ;^)

+--*--+
Jack GF Hill	Voice: (615) 459-2636 - Ham Call: W4PPT
P. O. Box 1685	Modem: (615) 377-5980 - Bicycling and SCUBA Diving
Brentwood, TN 37024	Fax: (615) 459-0038 - Life Member - ARRL
root@jackatak.theporch.com - "Plus ca change, plus c'est la meme chose"
+--*--+

2933. 1750m Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: rmcord@eng.unimt.mt
Message-ID: <318fa1d2.11019424@nntpserver.vol.it>
Source record: 105482

Hello everyone. Does anybody knows a source where i can have
information and circuit diagrams to build a tranciever or transmitter
only (AMand CW) for this band. If thera are sugestions please e-mail
me.
Thank you.
Bye
Mario Cordina.

2934. Modem disconnect ? (WAS: Re:KISS mode HELP !)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: Alex Lam <alexl@mpce.mq.edu.au>
Message-ID: <318E8FA3.5277@mpce.mq.edu.au>
Source record: 105558
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Gary Coffman wrote:
>
> In article <31884B26.4B04@mpce.mq.edu.au> Alex Lam <alexl@mpce.mq.edu.au> writes:
> >Hi all,
> > I am trying to have two modems talking to each other. Just then,
> >I have them talking with converse and transparent mode, but it didn't
> >working for KISS mode. In fact, they lost connection when I put them
> >into KISS mode.
> > I realise that I will no longer have AX.25 in KISS, but
> >I didn't expect they would lost connection !
> > Can anyone help ? Are there special instructions required ?
>
> KISS does not support AX.25. It is simply a channel management and
> modem management protocol. When you put the TNC in KISS mode, you
> have to do the layer 2 protocol (AX.25 link layer, slip, ppp, etc)
> via software running on the host computer.
>
> In other words, it is the AX.25 layer that supported the connected
> mode link. When you go into KISS, you are no longer doing AX.25 in
> the TNC so the link is lost.

Thankyou for your reply,

What I was trying to do here is to measure the bit error rate of the
radio link.
Unfortunately, bring the TNC to KISS mode and thus removing AX.25 does
not
help because there is yet the HDLC layer embedded in the TNC. Can you
give me
some suggestions ?

What about the modem disconnect ? What is that all about ? Frankly, I am
an
absolute newbie to the radio world...

Thanks

Alex
--

****
School of Mathematics, Physics, Computing and Electronics
| _ |\/| _ Macquarie University, Sydney 2109
|___|_|_| |_ , |-| L E X Ph: +61 2 850-9065
| | Fax: +61 2 850-9128

email: alexl@mpce.mq.edu.au

2935. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: wermusic@initco.net
Message-ID: <4mm4jc$t6b@mercury.initco.net>
Source record: 105559

jackl@pinetree.microserve.com (WB3U) wrote:

>Post / CC by Mail

> eganger@mindspring.com (Ed Ganger) wrote:

>>If I can't be convinced about antifreeze, what other options are
>>there for a coolant?

>>"mineral oil" from a pharmacy?

>Mineral oil was the factory choice in devices like the Cantenna. I can
>remember specifically reading warnings about not using motor oil for
>this, although I don't remember the reason.

>>(I would _really_ like to stay away from oil though ... it is
>>almost impossible to clean up!)

>Ethelyene glycol isn't much better and I don't know *anyone* who
>has used it for this purpose (maybe because it's poison)?

>My advice is to use the oil.

>73,
>Jack WB3U

The PREFERED CHOICE is TRANSFORMER OIL - available (if you are LUCKY) from the "SHOP" or mainatinence dept of the power company. It used to be a controled substance since it contained PCB's and you had to sign for it... knowing the shop formeman or explaining you needed it for AMATUER RADIO/EMERGENCY services would help. Mineral Oil will be the cheapest alternative. IF you follow the recommended FILL LEVEL, you shouldn't have a problem with leakage.... unless you store it upside down.... ? ? ?

73
cam

2936. FS BIG 4 PIN SOCKETS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: centrak@en.com
Message-ID: <4mmdd0$bct@antares.en.com>
Source record: 105560

Gentlemen,
I have approximately 20, N.O.S. 4 pin sockets by JOHNSON for
tubes such as the 211 (VT-4C) available for $15 a piece.

TNX
MARK FOLTARZ
KA4JVY

2937. Practical to build HF linear?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: arlan@worldnet.att.net
Message-ID: <4mmf9r$4mf@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105561

Howdy,

I'm a newbie to this group...have been reading the traffic for about a month now, and am looking for info regarding the practicallity of homebrewing an HF linear amplfier.

Would prefer something of the solid state ilk (400-500 watts), and would like to power it in the shack using a marine battery. Ameritron, SGC, and Ten-Tec make boxes that seem to fit the bill but I have no desire to dump $800+ for a commercially made device that I would use only occasionally.

Besides, it's been at least 20 years since I was thrown across a room after inadvertently discharging the capacitor of a dissected strobe flash, and have gotten somewhat nostalgic regarding endangering my life with high voltage (grin).

Is it practical to "roll your own" solid state linear? Saw some plans based on Motorola "experimenter" sheets last year at Dayton, but they all required higher DC feeds than a single Marine cell could deliver.

All advice, pointers, tips, tricks, and/or snide comments cheerfully accepted.

73
Arlan KG8OW

2938. SW Superhet Construction by R A Penfold - Has anyone tried it??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: A J Jeffreys <sis5322@pbs5.milton.port.ac.uk>
Message-ID: <318FB53D.11D3@pbs5.milton.port.ac.uk>
Source record: 105562

Hi,
Has anybody tried building the receiver in the book
Shortwave Superhet Receiver Construction by R A Penfold?

If you have, is it any good? How well does it work?
Have you any comments?

Please E-mail me.

Thanks!


```
+-----------------------------------------------------------+
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| / ___ \ | |_| | |_| | __/ _| _| | | __/ |_| \__ \ |
| /_/ \_(_)___(_)___/ \___|_| |_| |_| \___|\__, |___/ |
| |___/ |
| sis5322@pbs5.milton.port.ac.uk |
| sis5322@alpha2.iso.port.ac.uk |
| |
+-----------------------------------------------------------+
```

2939. Re: Practical to build HF linear?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4mnhok$u82@newsgate.sps.mot.com>
Source record: 105563

While not trivial, it's pretty simple to build a solid-state amp in the range you describe. Start looking at http://mot.com (or do a web search on "motorola" to locate all the places where Motorola has web pages).

Motorola has published a number of application notes along these lines. Some have been reprinted in QST and QEX, and at least one has briefly appeared in the ARRL Handbook. The old Motorola RF Data Book (pink, white, and blue cover) has an extensive treatment of this subject and IMHO is superior to the newer book -- but lacks info on the RF MOSFETS. So you really need both books.

Communications Concepts sells "kits" (within FCC limits) for a number of the Motorola app notes. This is the easiest way, but following one of the app notes I home-brewed a 150-watt HF amp out of the junk box, except for transistors. Expect to spend 15 to 25 cents per watt for bipolar transistors, and maybe twice that for MOSFETs.

For a 500-watt output amp running on 13.8 VDC, you'll need some pretty hefty power cabling (80 amp max). This is a significant reason for the 28-volt and 50-volt finals. The DC current handling requirements are lower for the hi-volt parts.

In any case, heatsinking is a big consideration, and this seems to be the hardest part to locate. For a 500-watt amp at 50% efficiency you'll dissipate as much heat as a big steam iron or small electric stove burner. Keep in mind that your circuit board need not be flat as long as the RF lines are short and symmetrical. You can also use copper bars as heat spreaders to a TO-3 style heatsink with fins on the sides, if you use the flange-mount transistors.

It's somewhat impractical to dunk your heatsink in an ice bath, but I've done it. I've considered a cold plate heatsink but never built one. Peltier junctions won't dissipate enough heat.

Filter your output.

Good luck
Jim N6OTQ

2940. WTB: Unbuilt Heathkit HW8 or HW9

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: ka3vsp@voicenet.com
Message-ID: <4mnrh8$l7d@goodnews.voicenet.com>
Source record: 105564

Hello. I am looking for an unbuilt Heathkit HW8 or HW9. Kit must be
complete with docs.
Please send me $$$ info and condition via email ka3vsp@voicenet.com.
Thanks.
Brian Pasternak

2941. Re: R/S 49 MHz HT's ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: mgarrett@prairienet.org
Message-ID: <4mnsbm$gha@vixen.cso.uiuc.edu>
Source record: 105565

In a previous article, hduff@humnet.humberc.on.ca (Hugh Duff) says:
>> >
>> >Wondering if the Radio Shack 49 MHz walkie-talkies use separate
>> >RX and TX crystals or 1 for TX only ?
>> >I'd like to try and get one onto 6 meters to use as a repeater monitor
>> >and occasionally try to access it.
>> >Also appreciate any info from those who have done already done something
>> >like this. HT model numbers appreciated.
>> >
>> >Thanks in advance...
>> >
>> >Hugh Duff VA3TO Toronto
>> >
>> Hugh:
>> The TRC-509's, single channel HT's that Radio Shack sells has separate
>> RX and TX crystals plus a 10.245 crystal for 2nd IF.
>> I have done the conversion and hope to get final writeup on how I did it
>> in the next couple of weeks posted.
>> Mostly it is merly a crystal and tune up to the unit is all it needs.
>>
>> --
>> Mark Garrett mgarrett@prairienet.org
>> KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM
>>
>
>Thanks for the reply Mark. R/S has a TRC-505 on sale up here in Canada
>and I was thinking of picking one up. I will assume it has a similar
>scheme to yours...unlike the old 27 MHz toy WTs that used an LC circuit
>on RX.
>Where did you get your crystals from and what were the specs
>(3rd overtone, series or parallel cut, loading capactiance... ?)
>
>Thanks again..Hugh..
>
The TRC-505 is similar to the 509 except they have changed styles on the
case and it was a 505 that I converted.
I got my crystals from Jan down in Ft. Meyers and the transmit is a 3rd
overtone loading cap I believe was for 30 pf temp was 25 C and I cannot
tell from the package of specs delivered if it is series or parallel cut.
They are listed under a cb type of crystal (I dont know if that is for
pricing) but if you tell them what you are using the crystal for they
should have specs since mine worked rather well out of the package.
Be sure to get wire leads and keep em long on the transmitter crystal,
you will have to lay it on it's side to keep it from hitting the speaker

and preventing you from closing the case. Also you might want to wrap the crystal in electical tape so it wont short out the components it will have to lay over on. The 505 uses a shorter style crystal but the 509's use a HC18 and lay it over.
Hopes this sheds some light.

--
Mark Garrett mgarrett@prairienet.org
KA9SZX @ N9LNQ.#ECIL.IL.USA.NOAM

2942. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <318FA545.415C@crpl.cedar-rapids.lib.ia.us>
Source record: 105566

Frank Ellesmere wrote:
>
> Would appreciate formula(s) for calculating the HF power handling
> capacity of iron and ferrite toroids. Application is Pi-L for HF
> vacuum tube linear amplifiers. I have seen designs where L 2 is
> often a toroid up to 20Mhz and have seen designs where L1 is sometimes
> a toroid in the same freq range.
>
> Frank, KG0FC

Suggest the Amidon Co. reference manual for $8 is a very valuable source book on core materials and applications. Call 714-850-4660 (Master card etc.)

Bill

2943. RF filter needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: Larry West <ljw@interactive.net>
Message-ID: <318F8210.32FF@interactive.net>
Source record: 105567

I know this isn't really in the realm of Amateur Radio, but
I thought my fellow Hams would be a good reference point.

I need to block out a very strong local FM Broadcast station
so I can receive a distant station on an adjacent channel.
The receivers I have are not sufficiently selective to
ignore the unwanted signal (or that signal is splattering
everywhere!).

The station I want is on 92.5Mhz, and the station I don't
want is on 92.3Mhz.

I suppose a high-pass filter would be good, as long as I
could switch it in or out of the line. But, I was thinking a
notch filter would be better, as I wouldn't need to switch
it in or out.

I'm willing and able to make it myself, but I need some
values for the components, and some suggestions on
recommended types of filters.

I suppose a directional antenna would help, too, so I'll get
out the 'ol Antenna Book, and check out those possibilities,
too.

73, de N2REB
--
****
Larry West - larry.west@pobox.com
Indy Car Racing, Country Dancing, Mac Maven, Saab 900t
"Life is not tried, it is merely survived
If you're standing outside the fire" - GB
****

2944. Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: frello@prairie.lakes.com
Message-ID: <4mnrne$4pb@News2.Lakes.com>
Source record: 105568

Would appreciate formula(s) for calculating the HF power handling capacity of iron and ferrite toroids. Application is Pi-L for HF vacuum tube linear amplifiers. I have seen designs where L 2 is often a toroid up to 20Mhz and have seen designs where L1 is sometimes a toroid in the same freq range.

Frank, KG0FC

2945. Tektronix 492 Spectrum Analyzer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: pitt <pitt@aplcomm.jhuapl.edu>
Message-ID: <Dr1u0E.pL@aplcenmp.apl.jhu.edu>
Source record: 105569

Works great, I'm using for finding new frequencies.
New $14000 Want $1500 - OBO
E-Mail Only and only if ready to buy.
Sale open until May 14, 1996 -
After that it's off to the Pawn Shop.

2946. Re: DTMF Decoder ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <760.6700T1019T500@nycmetro.com>
Source record: 105570

>Does anyone know of a DTMF decoder program that decodes the DTMF tones and
>displays them on the computer screen?

>Must be freeware or cheap shareware., include the schematic in the
>program, and simple to built. Would also be nice if it saved the data to
>a file.

>Hope I did not ask for alot?

>Thanks!

If yer an IBM user with a Soundblaster sound card I saw just such a prg while
cruising www.lycos.com looking for DTMF decoders

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2947. Re: WTB: Synths, Drum Machines & FX - analog or digital

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <1359.6700T1021T1094@nycmetro.com>
Source record: 105571

>WTB: Synths, Drum Machines & FX - analog or digital

>Arp, Akai, Boss, Buchla, Crumar, Chroma, EDP, EML, EMS, Korg, Moog, Oberheim,
>Octave, PAIA, PPG, Roland, Serge, Sequential, Simmons, Yamaha, ETC...

>* Older stuff With or Without MIDI
>* Synthesizers - analog, modular, patchable, some digital, etc...
>* Drum machines, Ryhthm units - analog
>* Sequencers - CV & gate
>* Converter units - MIDI to CV & gate, etc
>* Sync units - Din Sync, etc.
>* Effects processors - tube, analog, digital
>* Vocoders
>* Effects pedals

>* Even Newer Stuff

>* Also Wanted: Recording Gear - Mics, Pre-amps, Processors, etc...

>* Anything else that falls under the electronic music realm...

>Please write back with a description of what you have...
>Thankyou.
>--
>6

I have an Akai VX-90 Synth Module, Roland MKS-50 Synth Module, EMU Drumulator
Drum machine, Roland TR-707 drum machine and a Tascam Porta 05 4 Track Tape
deck for sale. Also have a Charvel Strat Guitar with Midi Pickup and Guitar to
MIDI Converter. Make an offer on any or all.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2948. Re: HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <318FB234.3ECD@arrl.org>
Source record: 105572
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Bill Poston in GA wrote:
>
> I am attempting to homebrew a quad antenna. I have read Cubical Quad
> Antennas by W6SAI and the ARRL Antenna Book. Neither answers my question.
>
> How do I connect one coax feedline to the multiple loops on the driven
> element?
>
> Please explain in detail so that a dummy can understand.

You could use a remote switch to select only one loop at a time.

The experience of many people, including myself, is that tying
the loops together makes the antenna tougher to feed, compared
with running separate feedlines.

I've not seen someone come up with the type of answer you are
looking for--the solution is well worth publishing if you find it.

Zack KH6CP/1

2949. Tuning Capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: peter@xilinx.com
Message-ID: <peter-0705961411350001@appsmac-1.xilinx.com>
Source record: 105573

I am looking for a source of good, old-fashioned tuning capacitors, the ones used in all radios before the age of varicaps.
I want to build pulse generators with a 2.5 : 1 manual tuning range (100 to 250 MHz), and that is tough for varicaps. Any suggestions?

Peter Alfke, Xilinx Applications, San Jose, CA
peter@xilinx.com

2950. Re: DTMF Decoder ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <1488.6701T1013T440@nycmetro.com>
Source record: 105574

>The best DTMF decoder I have seen yet was one designed by PDRUNEN@AOL.COM.
> I
>built his design and used his program with no problem at all. I used it
>to
>monitor the telephone calls going over my repeater. There as a fellow
>that
>was using my machine to make long-distance phone calls. Shame! Shame!
>cost
>me about 20 bucks before I could catch him. Turned out he did not have a
>ham
>ticket too!

>Anyway, The program can be loaded off the internet via FTP, to get there
>ftp
>to

>ftp.users.aol.com
>login as "ftp"
>password "Your e-mail Address"
>then cd /pdrunen
>then cd /DTMF "use the upper caps"
>then get dtmf_v11.exe

>Run dtmf_v11 and it will unpack into five files, dtmf_v11.exe, dtmf_1.gif,
>dtmf_2.gif, parts.txt and schemat.txt. You will also need a GIF viewer to
>view the schematics, there is a good viewer call vugraf13.zip also located
>at
>this ftp site. I also believe PDRUNEN will sent it to you over the
>internet
>if you e-mail him at PDRUNEN@aol.com.

>Hopes this help, also check this months issue of Nuts and Bolts.

>KJ4UO

Does this rely on a computer to decode or does it have it's own LCD screen?
Thanx I'll take a look.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

2951. Re: Etching piezo-ceramic with saltwater? Homebrew SAW filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4moe7d$1a7@hpscit.sc.hp.com>
Source record: 105575
Cross-posted to: sci.materials.ceramics,rec.radio.amateur.homebrew,sci.electronics.components

In article <4mna5l$5n3@news.pyrotechnics.com>,
Scott Stephens <stephnss@pyrotechnics.com> wrote:
>I am looking for a cheap available etchant for PZT ceramics, the type
>used in piezoelectric buzzers and transducers, and to understand thier
>chemistry better.
>
>I found that electropolishing a brass-backed piezo-disk in salt water
>etched the crystal as well as the brass while etching in a copper
>sulfate solution does not.
>
>To etch, I tried both bleach (sodium hypochlorite) and hydrochloric
>acid seperately, with no result. When both were mixed (resulting in
>chloric acid +ClO^3?) a white precipitate (what?) formed on the
>dissolving ceramic. I assume this to be the mechanism in electrolyzing
>saltwater.
>
>Any explanations and/or ways to etch piezo disks to custom shapes for
>hacker saw-filters?
>

I am also interested in any information on this topic.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

2952. Re: RF filter needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4mobmc$kmp@peabody.colorado.edu>
Source record: 105576

The directional antenna is a good approach... but remember that you don't want maximum _gain_ on the weak station, you want maximum _attenuation_ on the undesired one; even a lowly dipole has null of theoretically infinite depth, and if you could aim that right at the loud station, and it stayed still, you'd be done.

More complicated and more versatile, or at least more adjustable, is to have two different antennas which receive the two stations at different relative strengths with respect to one another, for example a whip (which receives both about equally) and a small beam pointed at one or the other. Now pass one through a variable phase and amplitude shifter, and then combine the two signals with a transformer. With the correct knob settings, the two inputs will contain undesired signals exactly out out of phase and exactly equal amplitude, and so will be perfectly nulled out, while the other signal, being differently represented in the two incoming signals, will _not_ cancel.

Adjusting the amplitudes is easy - something like a small, one-turn pot or variable gain preamp would do. Adjusting the phase might be accomplished with an LC phase shift network, or whatnot, but at 92 MHz - it might just be easier to move one of the antennas. With a wavelength of about three meters, you only have to move them that far to go through the whole 360 degrees.

This might be easier than a filter to make, but unlike the filter, when a plane flies overhead the received phases will get screwed up and the cancellation won't be perfect anymore; Filters are immune to this.

Bruce
N6URH

2953. Re: Practical to build HF linear?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: thompson@atl.mindspring.com
Message-ID: <4molba$1e5k@mule2.mindspring.com>
Source record: 105577

arlan@worldnet.att.net (Arlan R. Levitan) wrote:

>Howdy,

>I'm a newbie to this group...have been reading the traffic for about a month
>now, and am looking for info regarding the practicallity of homebrewing an HF
>linear amplfier.

>Would prefer something of the solid state ilk (400-500 watts), and would like
>to power it in the shack using a marine battery. Ameritron, SGC, and Ten-Tec
>make boxes that seem to fit the bill but I have no desire to dump $800+ for a
>commercially made device that I would use only occasionally.

There have been few articles on solid state amps (2 I know of in QST
have been for 1000W versions. You might copy the diagram of a
Ten-Tec or Ameritron or maybe you should buy a kit. One person that
advertises in several journals is Lee KD4YBC. For an SASE you get his
catalog which includes a 500W kit for $250 and a KW model for $500.
There are several others that I list in my book "The Amateur Radio
Mail Order Catalog and Resource Directory". The book is ARRL
publication 5242 available from dealers and ARRL.

The key is to build these amps to run on higher voltage than 13.8V.
Lucas Mfg makes a set of PS at 24, 28, 50V at high amps. Look at the
supply Ameritron uses for their 600W base amp.

Good luck.

Dave K4JRB

Almost forget KD4YDC is at 197 Chickawas Lane, Myrtle Beach, SC
29577.

2954. Locating an IC for video sync.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-07 00:00:00 UTC
From: bc-duffy@students.uiuc.edu
Message-ID: <4momp7$kto@vixen.cso.uiuc.edu>
Source record: 105578

I am searching for an ic for a video mixer I am building from scratch. It is part CD2240 (A CMOS LSI video sync generator). I would appreciate any help in locating this part (or any other for that matter) which would generate the video control portion of a video signal given stable horizontal and vertical frequency components.

Thanks in advance for any help
-Bryan Duffy
U. of Illinois - Urbana-Champaign

P.S. I am not a HAM radio operator, but I know the best scroungers and experimenters are. (Maybe some day I'll get around to applying, when my radio building skills improve! ;)

2955. Etching piezo-ceramic with saltwater? Homebrew SAW filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: stephnss@pyrotechnics.com
Message-ID: <4mna5l$5n3@news.pyrotechnics.com>
Source record: 105483
Cross-posted to: sci.materials.ceramics,rec.radio.amateur.homebrew,sci.electronics.components

I am looking for a cheap available etchant for PZT ceramics, the type used in piezoelectric buzzers and transducers, and to understand thier chemistry better.

I found that electropolishing a brass-backed piezo-disk in salt water etched the crystal as well as the brass while etching in a copper sulfate solution does not.

To etch, I tried both bleach (sodium hypochlorite) and hydrochloric acid seperately, with no result. When both were mixed (resulting in chloric acid +ClO^3?) a white precipitate (what?) formed on the dissolving ceramic. I assume this to be the mechanism in electrolyzing saltwater.

Any explanations and/or ways to etch piezo disks to custom shapes for hacker saw-filters?

2956. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4mp4h1$3vh@crash.microserve.net>
Source record: 105484

Post / CC by Mail

frello@prairie.lakes.com (Frank Ellesmere) wrote:

>Would appreciate formula(s) for calculating the HF power handling
>capacity of iron and ferrite toroids. Application is Pi-L for HF
>vacuum tube linear amplifiers. I have seen designs where L 2 is
>often a toroid up to 20Mhz and have seen designs where L1 is
sometimes a toroid in the same freq range.

There are two spreadsheets on my FTP site that might be of help
if you have Excel 4.0 for Windows or something compatible. The
files are labeled Toroid.xls and Flux2.xls. The FTP site is:
ftp.microserve.com/popaccts/h/jackl/

You can also get the formula from the Amidon flyer (catalog).
Their phone number is: (714) 850-4660. Note that the formula uses
only three factors in determining flux: the cross-sectional area
of the core, the number of turns, and the voltage across the turns.
The maximum permissable flux varies by frequency but not by the
core material. It is inversely proportional to the number of turns
though, so permeability affects the results because it will determine
the number of turns for a given inductance.

73,
Jack WB3U

2957. Re: RF filter needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: mark@reson.com
Message-ID: <4mp57j$2ad@daffy.sb.west.net>
Source record: 105485

Larry West <ljw@interactive.net> wrote:
>I need to block out a very strong local FM Broadcast station
>so I can receive a distant station on an adjacent channel.
>The receivers I have are not sufficiently selective to
>ignore the unwanted signal (or that signal is splattering
>everywhere!).

>The station I want is on 92.5Mhz, and the station I don't
>want is on 92.3Mhz.
>[snip]
>I'm willing and able to make it myself, but I need some
>values for the components, and some suggestions on
>recommended types of filters.

>I suppose a directional antenna would help, too, so I'll get
>out the 'ol Antenna Book, and check out those possibilities,
>too.

It might be a bit difficult building an LC filter for the above
situation. The Q of the filter would have to be on the order of 460.
Plus, the skirts of the filters would have to be rather steep calling
for a multi-section design which equates to having an even higher Q
for the filter sections. If you want to have fun, you can make a
tuned cavity out of 3 pound coffee cans. A little funky, a bit lossy,
but educational.

Better that you try a directional antenna like a simple Yagi. If you
live in an area with tall buildings or mountains, then a directional
antenna may be useless due to reflections.

-
Mark Chun | mark@reson.com | Santa Barbara, CA

2958. Re: Tuning Capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <4mp2cj$f6h@tierra.santafe.edu>
Source record: 105486

peter@xilinx.com (Peter Alfke) wrote:

>I am looking for a source of good, old-fashioned tuning capacitors, the
>ones used in all radios before the age of varicaps.
>I want to build pulse generators with a 2.5 : 1 manual tuning range (100
>to 250 MHz), and that is tough for varicaps. Any suggestions?

>Peter Alfke, Xilinx Applications, San Jose, CA
>peter@xilinx.com

Seems to me that varactor TV tuners get about a 2 to 1 range. I built
a sweep oscillator using one and covered 50 to 950 MHz in 4 ranges.

de K9GXC, Jim

2959. Re: Etching piezo-ceramic with saltwater? Homebrew SAW filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: ghaverla@freenet.edmonton.ab.ca
Message-ID: <4mq44v$drm@news.sas.ab.ca>
Source record: 105487
Cross-posted to: sci.materials.ceramics,rec.radio.amateur.homebrew,sci.electronics.components

Richard Karlquist (rkarlqu@scd.hp.com) wrote:
: In article <4mna5l$5n3@news.pyrotechnics.com>,
: Scott Stephens <stephnss@pyrotechnics.com> wrote:
: >I am looking for a cheap available etchant for PZT ceramics,
[...]
: >To etch, I tried both bleach (sodium hypochlorite) and hydrochloric
: >acid seperately, with no result. When both were mixed (resulting in
: >chloric acid +ClO^3?) a white precipitate (what?) formed on the
: >dissolving ceramic. I assume this to be the mechanism in electrolyzing
: >saltwater.

I sure hope you were doing this under well ventilated conditions.
Did you see a greenish-yellow gas coming off the solution. You did?
That gas is chlorine. It permanently binds with the oxygen receptor
sites in haemoglobin, just like carbon-monoxide does.

Perhaps chlorine is mostly evolved when bleach is mixed with oxidizing
acids (I've used it with sulphuric to make chlorine). My guess is the
white precipitate is sodium chloride, but please don't taste it. If
you really need to know, take it into a commercial analysis lab. It
may cost you a bit of money, but they will analyse it safely.

--
Gordon Haverland, B.Sc. M.Eng. Area: Materials Science and Engineering
101 9504 182 St. NW Professional Status: Available
Edmonton, AB, CA T5T 3A7
403/481-8019 Email: ghaverla@freenet.edmonton.ab.ca

2960. Re: HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: rtw@fuwutai.att.com
Message-ID: <4mq5hi$gmr@nntpa.cb.att.com>
Source record: 105488
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <318c1477.108916@news.atl.mindspring.com>,
billp8@atl.mindspring.com says...
>
>I am attempting to homebrew a quad antenna. I have read Cubical Quad
>Antennas by W6SAI and the ARRL Antenna Book. Neither answers my question.
>
>How do I connect one coax feedline to the multiple loops on the driven
>element?
>
>Please explain in detail so that a dummy can understand.
>
>Thanks in advance for your help.
>
>
>Email would be appreciated.
>
>
>Bill N4BVS
>~~~~~~
>Bill <billp8@atl.mindspring.com>
>Marietta, Ga.
>================== THIS TOO, SHALL PASS ==================

Depending on the spacing of the elements, the input impedance can vary from
less than 50 ohms to close to what the full wave loop would be without the
parasitic elements (80-100 ohms). Of course, it is a balanced antenna, so a
balun may be helpful. The assumption that is being made when all the driven
elements are connected together is that only the element resonant for the
band you are on has an impedance close to desired (in the case with the 2:1
transformer, 100 ohms), and that the impedance of the other elements are
significantly higher. This is not a good assumption, and I agree that it
would be better to switch elements. I think you are going to have to test
each element individually to find out if the 2:1 balun helps, though. The
impedance will be influenced by the parasitic element spacing as well as the
fact that the other driven elements are closely coupled to the active one.

Another approach would be to use a single driven element which is resonant on
all the bands of the antenna. For example, a system of traps and wire
elements could be used to adjust the total length of the loop for each
frequency.

Rob WB8WQA

2961. WTB 100TL's or 100TH's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: hanavin@stimpy.eecis.udel.edu
Message-ID: <4mq5s7$mq0@louie.udel.edu>
Source record: 105489

I am looking for preferably 4 or 5 good
100TL tubes. I will also consider 100TH's,
250TL's, or 250TH's.

I have for trade: cash, 833's, 4-440's, 4-125's,
809's, 2A3's, 6L6's, etc.

Chuck (WB3FJJ) Email: hanavin@eecis.udel.edu

2962. Re: Practical to build HF linear?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4mq6b9$kg5@kocrsv08.delcoelect.com>
Source record: 105490

I agree with N6OTQ. I would add that Communications Concepts Address is 508 Millstone Drive, Beaver Creek, Ohio 45434-5840 TX(513) 426-8600. The original Motorola Application notes from eight or nine years ago are very good at illuminating the critical design areas. I have a 300 watt unit based on the MRF-454 bi-polar design.

73 de K9JDU

2963. Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: ylshih@alumnae.caltech.edu
Message-ID: <4mqqic$841@gap.cco.caltech.edu>
Source record: 105491

Quick question -

Is clear nail polish (apparently composed of two kinds of acetate and solvent) acceptable as coil dope? I'm building a project and thought I had read somewhere that it was so I used some on four coils. I checked the inductances and they measured the same before and after, but I wasn't able to check for possible Q degrading effects. After I soldered the coils in, I got some real Q-dope. Now I'm wondering if I should pull those coils and rebuild them. Any comments?

Yin Shih, KO6VY, PP-ASEL-IA
ylshih@alumni.caltech.edu

2964. Re: Locating an IC for video sync.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4mqs9q$qkn@shellx.best.com>
Source record: 105492

In article <4momp7$kto@vixen.cso.uiuc.edu>,
Bryan Cordell Duffy <bc-duffy@students.uiuc.edu> wrote:
>I am searching for an ic for a video mixer I am building from scratch. It is
>part CD2240 (A CMOS LSI video sync generator). I would appreciate any
>help in locating this part (or any other for that matter) which would
>generate the video control portion of a video signal given stable horizontal
>and vertical frequency components.
>
>Thanks in advance for any help
>-Bryan Duffy
>U. of Illinois - Urbana-Champaign
>
>P.S. I am not a HAM radio operator, but I know the best scroungers and
>experimenters are. (Maybe some day I'll get around to applying, when my
>radio building skills improve! ;)
>

You might look into the National LM1881 sync sepparator. Elantec
also makes lots of interesting processing ICs including a Genlock
unit. Try their web pages at http://www.natsemi.com or
http://www.elantec.com

Also, you might save yourself some money by finding a surplus
video mixer/effects unit. I bought one at a local ham flea market
for less than $100. It has 10 inputs and a very good effects bus
for wipes, fades and even chroma key. Companion genlockable sync
generators usually go for about $20 at the same flea market.
I have lots of fun with it on Ham Television (ATV).

Feel free to contact me via Email if you have any other questions.

Steve Muther, WF6R
stevem@best.com

2965. Re: Practical to build HF linear?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: Don Huff <don_huff@HP-Vancouver-om1.om.hp.com>
Message-ID: <3190F231.103F@HP-Vancouver-om1.om.hp.com>
Source record: 105493

Arlan R. Levitan wrote:
>
> Howdy,
>
> I'm a newbie to this group...have been reading the traffic for about a month
> now, and am looking for info regarding the practicallity of homebrewing an HF
> linear amplfier.
>
> Would prefer something of the solid state ilk (400-500 watts), and would like
> to power it in the shack using a marine battery. Ameritron, SGC, and Ten-Tec
> make boxes that seem to fit the bill but I have no desire to dump $800+ for a
> commercially made device that I would use only occasionally.
>
> Besides, it's been at least 20 years since I was thrown across a room after
> inadvertently discharging the capacitor of a dissected strobe flash, and have
> gotten somewhat nostalgic regarding endangering my life with high voltage
> (grin).
>
> Is it practical to "roll your own" solid state linear? Saw some plans based on
> Motorola "experimenter" sheets last year at Dayton, but they all required
> higher DC feeds than a single Marine cell could deliver.
>
> All advice, pointers, tips, tricks, and/or snide comments cheerfully accepted.
>
> 73
> Arlan KG8OWHello Arlan,

If you want an HF amplifier, find a used Heath SB-220. You can find
one for about 400-500 dollars; they are worth it! I recently saw one,
brand new, UNUSED for asking price of $600. Worth it! They are 2KW,
built in power supply, pi net output, etc etc. The 3-500Z's will last a
lifetime with care. Avoid homebrewing high power with solid state
designs. There is too much involved for a one-off project, and you won't
save any money when it is all done (and you just might blow up several
expensive devices in the process). Also, the SB-220 or similar will be
worth the same (or more!) when and if you ever want to sell it.
Lastly, they are easy to work on, easily modified to do whatever you
want, fully documented, and REPAIRABLE.

Just some advice from an OT like myself.

73 and GL,

Don, W6JL

2966. Re: 4-1000A

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-08 00:00:00 UTC
From: don.phelps@infoway.com
Message-ID: <9605091141353022@infoway.com>
Source record: 105494

From my efforts with the 4-1000A, I concluded the easiest way
to improve gain and reduce drive requirements was to operate at
the max. rated plate voltage. (grounded grids configuration)
So I adjust for exactly 6000 volts on the plate.

I did this with a large variac on one leg of the 230 volt line.
Switching the other connection of the plate transformer between common and
the other 230 volt line, for a low and high range of plate voltage
(ie 0- 6000; 5000-10,000 volts). In providing the lowest
effectvie line impedance as possible for the best line regulation,
is it better to place a variac arross the whole 230 volt line,
or just one leg of the line? The variac seems to be rated at about
50 Amps, but the load is only for a full legal limit amp.

I seem to recall there is a special tube socket made for use with
a screen grid power supply, but they are expensive, and I did not find
a source on the used ham market. Hence I never purchased them,
and can not attest to how much they improve the tetrode neutralization
problem.

Have others actually used these "tetrode" sockets?

Don, N6MCE
; The Blue Wave Offline Mail Reader v2.20
; Tagline List File
; Taglines may now contain the following macros. These macros will
; be expanded before the tagline is placed on the message:
;
; @N@ Whole Name in TO: Field of new message
; @LN@ Last name in TO: Field of new message
; @FN@ First name in TO: Field of new message
; @D@ Current Date, as in 20 Feb 92
; @DD@ Current Day, as in 20
; @DM@ Current Month, as in Feb
; @DY@ Current Year, as in 92
; @T@ Current Time, as in 23:59:00
;
; These Sample Taglines have been provided to get you started.
; Feel free to delete any that you don't like and "adopt" new ones
; of your own using the <Alt-A>, <Ctrl-A> and A keys while reading messages.
; Also, several systems offer Tagline files for download and FREQ.
; And last, but not least, is the TAGLINES echo on the Fidonet backbone
; which is an interesting source of new and adoptable taglines.
;
; A new feature with version 2.10 is the use of [command] tokens in the

```
; tagline list file. Below is a short description of the command tokens
; available:

; [ALTLIST]C:\BWAVE\TAGLINES.ALT
; This will force the reader to load and process an alternate tagline file
; when highlighted and selected in "Prompt" tagline selection mode.

; [EXTERNAL]This line will execute the external tagline manager.
; This will force the reader to execute the external tagline manager command
; line defined in the reader's SETUP menu (used as an alternate way to select
; taglines). This external tagline manager must be 'John Hancock' compatible.

; [COMMENT]This line is a comment.
; This will display the text found after the [COMMENT] token in the reader
; tagline selection window when in "Prompt" mode.

; Lines beginning with a semi-color (;) and blank lines are ignored.
; Do not make any lines longer than this--------------------------->|

Don.Phelps@InfoWay.com; Fido 1:125/104; DharmaNet 96:101/104
[EXTERNAL]Press ENTER here to run the external tagline manager.
[COMMENT]Pressing ENTER on the line below will load a new tag file.
[ALTLIST]MORETAGS.TAG
Alpine BBS 10PM-7AM (415)459-4503
Alpine BBS' Sysop Don.Phelps@infoway.com
Don.Phelps@infoway.com
Born in 1943, Year of the Zinc-Coated Steel Penny ;-)

... Don.Phelps@InfoWay.com; Fido 1:125/104; DharmaNet 96:101/104
___ Blue Wave/386 v2.30 [NR]
```

2967. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4mrvf4$619@crash.microserve.net>
Source record: 105495

ylshih@alumnae.caltech.edu (Yin Lung Shih) wrote:

>Is clear nail polish (apparently composed of two kinds of acetate and
>solvent) acceptable as coil dope? I'm building a project and thought
>I had read somewhere that it was so I used some on four coils. I
>checked the inductances and they measured the same before and after,
>but I wasn't able to check for possible Q degrading effects. After I
>soldered the coils in, I got some real Q-dope. Now I'm wondering if
>I should pull those coils and rebuild them. Any comments?

Rebuilding those coils would be a major waste of time. Fingernail
polish work just fine for this. Its only drawback is that it may not
adhere as well as an actual adhesive, and it tends to be brittle. If
you used enough so that it soaked into the coil, between the turns,
neither of these characteristics is likely to cause a problem.

73,
Jack WB3U

2968. Looking for IC that does PL tone decoding

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: god@netaxs.com
Message-ID: <4ms308$3cl@netaxs.com>
Source record: 105496

I'm in the process of designing a unit that hopefully will be able to decode DTMF as well as recognize PL tones. Building the DTMF half shouldn't be a problem, but I'm pretty new at this, and need a recommendation on a chip to do the PL tone decoding. Can I just use a standard tone decoder chip (not DTMF)? Also, will there be any problems with taking the speaker out of a scanner or HT and routing that into the unit? Will the tones be to low? (Is subaudible carried over the speaker out?)

Thanks
-Bill

2969. QY4-250 valves any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4msest$j70@clam.niwa.cri.nz>
Source record: 105497

I have recently scored a dozen obsolete valves labelled:

"CV2131
QY4-250"

They are ex-spares for a ship based echo sounder. I was wondering if they could be pressed into service on our HF bands. Our contest group at ZM2K is always hard up for amplifiers... Any pointers towards specs (4kV, 250W anode ??) , manufacturer, best (if any) configuration for amateur use etc. etc appreciated.

Wilbert, ZL2BSJ.

2970. Re: Tuning Capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: toyboat@freenet.edmonton.ab.ca
Message-ID: <4ms9bf$euc@news.sas.ab.ca>
Source record: 105498

Cecil Moore (cmoore@sedona.intel.com) wrote:
: Cecil Moore <cmoore@sedona.intel.com> wrote:
: >peter@xilinx.com (Peter Alfke) wrote:
: >>I am looking for a source of good, old-fashioned tuning capacitors,
: >
: Whoops, just noticed the 100-250MHz. They also have a 2-gang, 14-78pf and
: 17-100pf with a 0.09 in. gap.

--Antique Electronic Supply has a few air variables and padders as well.
1 (602) 820-5411 for catalog. (Tubes and mucho neat stuff)

2971. Re: Tuning Capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: dougd@lrbcg.com
Message-ID: <4msh10$4e4@news.dx.net>
Source record: 105499

peter@xilinx.com (Peter Alfke) wrote:

>I am looking for a source of good, old-fashioned tuning capacitors, the
>ones used in all radios before the age of varicaps.
>I want to build pulse generators with a 2.5 : 1 manual tuning range (100
>to 250 MHz), and that is tough for varicaps. Any suggestions?

>Peter Alfke, Xilinx Applications, San Jose, CA
>peter@xilinx.com

I don't know if this is what you want or not, but here goes:

3 x 570 pF Air Variable Tuning Caps.
Triple ganged. $9.95 ea. at:

Hosfelt Electronics
FAX: 800-524-5414
Voice: 800-524-6464

Located in Steubenville, OH

I bought a 20 amp MG power supply from them for $89.00 and
am very satisfied. They are sort of a surplus place.

Doug
KC8CGX

North Central Ohio Skywarn Info
http://www.amnorth.com/redbone/skywarn.html
http://www.amnorth.com/redbone/ham-page.html
http://lrbcg.com/dougd/antenna.htm

2972. Re: QY4-250 valves any good?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4mstkf$173j@newsgate.sps.mot.com>
Source record: 105500

Are those five-pin base, glass envelope valves?

If so, it's likely to be the 4-250, a tetrode that is good
to 100MHz+ and is a lower-powered version for the 4-400.
The 250 watt dissipation spec you guessed is correct, but
the anode voltage may be high. (the 4- indicates a tetrode).
Should be a 5V filament, ~15 amps.

If operated in grounded-grid, these are a plug-in replacement for
the 4-400. The ARRL Handbook lists these in the tube charts in the
back, with parameters. EIMAC may provide their specs on request.

A grounded-grid 4-400 amp appeared in the ARRL Handbook for several
years in the 1980s, and is the easiest starting point for an amp
made from these valves. They used 3KV anode and -8.1V cathode bias,
if I recall, on a pi-network output. Now-SK K5IQ ran one of these
style amps into a small tri-band beam on the 14.313 Maritime Mobile Net
in the mid-1980s and was very loud throughout most of the western
hemisphere. I would start with that design.

Jim N6OTQ

2973. Dayton Tech Talk

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: cqc@aol.com
Message-ID: <4msvpm$hpg@newsbf02.news.aol.com>
Source record: 105501

You're invited to a free technical presentation sponsored by the Colorado QRP Club and the Northern California QRP Club (NorCal) Thursday evening, May 16, from 7:00 to 10:00+ p.m. at Days Inn South in Dayton, Ohio. The topic is QRP Rigs - Circuit Analysis and will be presented by Paul Harden, NA5N, the author of the new book, Electronic Data Book for Homebrewers and QRPers including QRP Yellow Pages. Paul is the most sought-after author in the fast-growing QRP area at this time. A Q&A session will follow the presentation.

If you are coming to the Dayton Hamvention, begin the wild weekend Thursday evening at Days Inn South. We will meet in the Miamisburg Room at 7:00 and the presentation will begin at 7:30 p.m.

Days Inn South is located at 3555 Miamisburg-Centerville Road at I-75 and Exit 44 in Dayton.

If you have any questions, I can be reached until Sunday, May 12, 1200Z at CQC@aol.com or via packet at w0hep@kt0h.#neco.co.usa.noam.

CU in Dayton at the Colorado QRP Club table in space 3405.

2974. Re: Ant Element Keepers - Need Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-0905960817010001@tom-dunn.caltech.edu>
Source record: 105502

In article <4mju7j$as9@kdcol.kdcol.com>, markm@kdcol.com wrote:

> I decided to do a mod on a 432 antenna and find that I need to replace
> the elment keepers as well. These are the type used on Cushcraft and
> M2 antennas, I think. For 3/16th elements.
>
> Anyone know a good source for these?
>
> Thanks, 73, Mark

These are availble from McMaster-Carr. They are an industrial supply company. They do take credit card orders, and have locations in Atlanta(404 346-700), Los Angeles(310 692-5911), Chicago(708 833-0300), and New York/Philadelphia(908 329-3200). The item your looking for is called "push nut for studs". THe 3/16 inch is catalog number 94807A026. The cost is $2.58 for package of 100. I do not work for or own any stock in McMaster-Carr only a satisfied customer. I once ordered some stainless hardware and shoulder bolts at 9:30 A.M. and when I got home that evening the order had all ready been delivered. That was from Los Angeles location. These push nut may be availble in smaller quanities else where I don't know. Have you tried appliance repair shop or lawn mower shop? 73
Tom WB6IQD

2975. Re: 8031 microcntrlr ham apps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4mt7uo$t2o@service2.uky.edu>
Source record: 105503

In article <4mg66o$dl8@maw.montana.com>, bowman@montana.com (robert bowman) says:
>
>In article <4m3hms$h8k@dfw-ixnews5.ix.netcom.com>, timhynde@ix.netcom.com(Tim Hynde
ka8ddz qrp/Rochester, MI) says:
>>Anyone have any ham radio applications for the 80C32 / 8051
>>microcontroller family? I am trying to learn the 8032 and would like
>>some "usefull" programs to help with the teaching process.
>
>
>CW encoding/decoding is a fairly useful workout, or even thing like
>the MFJ 'personal code tutor'. it'll give you some experience with the
>timers, lookup tables, and so forth.
>
>or you could do a little DDS. the '51 can't really cut synthesis at a
>useful RF level, but audio output is the same technique, and a little
>easier to monitor.
>
>
The 8051 (and other single chip /cpu/eproms) are good for CW iders for
repeaters(especially for my mobile 2Mtr/70Cm crossband) or beacons.
The Cmos version is real good for my 6Mtr (solar pwrd beacon) The current
drain is next to nothing. For repeater iders, it is fun to get the ider
to id on power up, the first time the tx comes up after 7min or so, then
to force an id cycle after 10 minutes (if there was no transmission after
7min). Sometimes simple is simply better.

2976. "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: rjg@itasca.stat.umn.edu
Message-ID: <4mt9mo$q5b@epx.cis.umn.edu>
Source record: 105504

OK. Dunno if this is the right place to start, but in any case, would appreciate email as I tend to blow past a lot of news on the daily lack of time. :-(

In doing some WWII POW research I ran across some mention of very simple shortwave or AM receivers that were being built in the barracks using (mostly) accessible materials... Kindof a crude crystal set without the crystal, centered, I guess, on a blue steel razor and a pencil lead.

Haven't thought about it for a while until it came up in discussion elsewhere which timed perfectly with a museum display being discussed about POWs during WWII for this summer.

I'm trying to track down information on these "homebuilt" radios and, if lucky, find a plan to actually construct an operational one to add into the display.

It's kindof the other end of the scale from what traditional radios are today, but hoping someone out there has what I'm looking for... Or can point me in the right direction.

Any info? Please email...
Thanks,

/bob

\\ Robert J. Granvin rjg@stat.umn.edu
// School of Statistics - University of Minnesota ICBM: 44.924 -93.212
http://www.stat.umn.edu/~rjg
Those who would sacrifice liberty for security deserve neither. -Ben Franklin

2977. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4mtgj3$loh@crash.microserve.net>
Source record: 105505

I wrote:

>Note that the formula uses only three factors in determining flux:
>the cross-sectional area of the core, the number of turns, and the
>voltage across the turns.

Ooops, it also uses frequency.

73,
Jack WB3U

2978. Re: 1750m Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: word.factory@zetnet.co.uk
Message-ID: <4mthtn$38m@roch.zetnet.co.uk>
Source record: 105506

In message <318fa1d2.11019424@nntpserver.vol.it>
rmcord@eng.unimt.mt (Ronald Cordina) writes:

> Hello everyone. Does anybody knows a source where i can have
> information and circuit diagrams to build a tranciever or transmitter
> only (AMand CW) for this band. If thera are sugestions please e-mail
> me.
> Thank you.
> Bye
> Mario Cordina.

Try ARRL handbook 1996 chapter 17. Gl es 73 de John Rabson G3PAI

2979. Re: Tuning Capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <831670352snz@lfheller.demon.co.uk>
Source record: 105507

In article <peter-0705961411350001@appsmac-1.xilinx.com>
peter@xilinx.com "Peter Alfke" writes:

> I am looking for a source of good, old-fashioned tuning capacitors, the
> ones used in all radios before the age of varicaps.
> I want to build pulse generators with a 2.5 : 1 manual tuning range (100
> to 250 MHz), and that is tough for varicaps. Any suggestions?

Jackson Bros., here in the UK, still make them. They are rather
expensive.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

2980. need mods kenwood TM-255

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: adriaan <adpe1khp@pi.net>
Message-ID: <NEWTNews.11594.831707689.adriaan@pi-user.pi.net>
Source record: 105508
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Hello,

Can someone help me with some mods for the Kenwood TM255 SSB transciever ??

I have some mods for the th79 for return.

73, Adriaan pe1khp

2981. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <31923D45.6494@arrl.org>
Source record: 105509

Zack Lau wrote:
>
> WB3U wrote:
> >
> > Post / CC by Mail
> >
> > frello@prairie.lakes.com (Frank Ellesmere) wrote:
> >
> > >Would appreciate formula(s) for calculating the HF power handling
> > >capacity of iron and ferrite toroids. Application is Pi-L for HF
> > >vacuum tube linear amplifiers. I have seen designs where L 2 is
> > >often a toroid up to 20Mhz and have seen designs where L1 is
> > sometimes a toroid in the same freq range.
> >
>
> > You can also get the formula from the Amidon flyer (catalog).
> > Their phone number is: (714) 850-4660. Note that the formula uses
> > only three factors in determining flux: the cross-sectional area
> > of the core, the number of turns, and the voltage across the turns.
> > The maximum permissable flux varies by frequency but not by the
> > core material. It is inversely proportional to the number of turns
> > though, so permeability affects the results because it will determine
> > the number of turns for a given inductance.
>
> Flux calculations aren't as useful at HF, since the iron
> powder cores are typically limited by power dissipation,

Jack wanted me to point out that the flux values
he mentions aren't related to saturation--that they
are Amidon's estimates for RF operation.

OTOH, I don't see how flux values can accurately predict core
losses if it ignores the core material.

> as opposed to core saturation. Ferrites are rarely useful
> in a high power tuned circut due to their poor temperature
> stability. I'd measure the Q can calculate the temperature ^^^
and
> rise. The flux formula is useful when designing a 50 kHz
> switcher.
>
> Zack KH6CP/1

2982. Testing - don't read.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: victorg@barrancas.com
Message-ID: <8361-26318801@barrancas.com>
Source record: 105510

```
+-------------------------------------------------+
| ** BBS BARRANCAS ** |
| Info: Sysop@barrancas.com Modem (+54 329) 84584 |
| BARADERO - Buenos Aires - Argentina |
+-------------------------------------------------+
```

2983. Re: CB vs Marine VHF for mountain lakes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <319259A2.7893@lanl.gov>
Source record: 105511

My experience in this area is that there is little, if any, "bending" at
any frequency above say 1.8 MHZ. Radio waves travel mostly in straight
lines except in the case of high or VHF signals which tend to "bounce"
off small objects, rocks, metal billboards, rugged mountains and ridges,
etc. My experience is that VHF works much better than HF 80 thru
6 meters through canyons and other rugged terrain that you describe
because of both the lower background noise at VHF and the bounces
provided by the so-called obstructions.
I've never operated over open water between vessels etc. but the stories
I've heard from boating CB'ers is that the range is much greater at 27
MHZ over water than over land.
Why not try both and report back to the "world" what your experience is?
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
http://nis-www.lanl.gov/~jdport/

2984. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <3191F690.182B@arrl.org>
Source record: 105512

WB3U wrote:
>
> Post / CC by Mail
>
> frello@prairie.lakes.com (Frank Ellesmere) wrote:
>
> >Would appreciate formula(s) for calculating the HF power handling
> >capacity of iron and ferrite toroids. Application is Pi-L for HF
> >vacuum tube linear amplifiers. I have seen designs where L 2 is
> >often a toroid up to 20Mhz and have seen designs where L1 is
> sometimes a toroid in the same freq range.
>

> You can also get the formula from the Amidon flyer (catalog).
> Their phone number is: (714) 850-4660. Note that the formula uses
> only three factors in determining flux: the cross-sectional area
> of the core, the number of turns, and the voltage across the turns.
> The maximum permissable flux varies by frequency but not by the
> core material. It is inversely proportional to the number of turns
> though, so permeability affects the results because it will determine
> the number of turns for a given inductance.

Flux calculations aren't as useful at HF, since the iron
powder cores are typically limited by power dissipation,
as opposed to core saturation. Ferrites are rarely useful
in a high power tuned circut due to their poor temperature
stability. I'd measure the Q can calculate the temperature
rise. The flux formula is useful when designing a 50 kHz
switcher.

Zack KH6CP/1

2985. Re: HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: "Al Koblinski (W7XA)" <canksc@tevm2.nsc.com>
Message-ID: <Dr5x5r.12n@nsc.nsc.com>
Source record: 105513
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I use a 1:1 balun for each loop (Bencher, but any brand is OK).
Where needed I used a coax matching section to match.
On 20mtr, my 3 el on 26' boom was 49 ohms so no matching was needed for
50 ohm coax.
Ditto for 5 el on 15 mtrs with same boom.
10 meters, 5 elements came out to near 90 ohms impedence and I used a
section of 75 ohm coax between the balun and the 50 ohm feedline.
Each element is fed seperately through a switchbox.
I have used a variety of other feed methods in the past, such as gamma
matching (cumbersome) and found that the simple balun approach works
great and is mechanically the most simple.
73, Al

2986. Re: CB vs Marine VHF for mountain lakes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-09 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <4mt33l$2tq@btc1.up.net>
Source record: 105514

A marine radio with 25 w. output into a 3 db antenna, on each boat, should completely cover the area you are interested in. 150 MHz signals should bounce quite well off any canyons that might create a loss of sight situation, especially with the 50 w.ERP at 15 feet (or so) above the waterline.
However, there may be a legality question, as to whether the VHF Marine band is available for use in the location in question.

2987. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: b.abbay@humboldt1.com
Message-ID: <4n4uk4$s77@home.humboldt1.com>
Source record: 105429
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

cj@hth.com (Christer Johansson) wrote:

>Hi,

>>Why are you posting this crap about stamps? It costs me money
>>to download news and I can't pick and choose. Who the Hell asked
>>you to do this?

>Received several of the above e-mail from a person who didn't like
>to give his name or e-mail address, he used an anonymous-remailer !

>However I would like to hear if others feel the same about L.O.S.A
>and if thats the case I will stop posting it.

<Snip>
>-=-
> * High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
>-=-
> * Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
> >> World Wide Web On-Line Catalog - http://www.hth.com <<
>-=-

Chris,

If you got a lot of complaints from *different* folks that's one
thing. If you got a lot from *one* guy, anonymously yet(!), forget
it.

Your L.O.S.A. was well done and well organized. I for one would like
to see it continue. Thanks for your efforts.

Bill
--
Bill Abbay (b.abbay@humboldt1.com)

2988. Re: HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: P Tyers <p.tyers@trl.oz.au>
Message-ID: <3192B34A.6EF1@trl.oz.au>
Source record: 105515
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Monty Wilson wrote:
>
> billp8@atl.mindspring.com (Bill Poston) wrote:
> >I am attempting to homebrew a quad antenna. I have read Cubical Quad
> >Antennas by W6SAI and the ARRL Antenna Book. Neither answers my question.
> >
> >How do I connect one coax feedline to the multiple loops on the driven
> >element?
> >
> >Please explain in detail so that a dummy can understand.
>

Have another read of Cubical Quads. What you actually end up
doing is producing a multiple gamma match, one for each loop.
Of course they interact to all heck while being adjusted.I
seem to recall that the preferred order of adjustment was
from smallest loop to largest loop for minimum interaction -
BUT I COULD BE TOTALLY WRONG ON THIS.

Another source of information is a series of articles
published in the Wireless Institute of Australia magazine
"Amateur Radio" about 15 +/- 5 years ago on multiband quads
which had several column inches on the care and feeding of
these gamma matches.

Hope this helps!

--
P Tyers, Tel. +61-(0)3-92536794
AARnet: p.tyers@trl.telstra.com.au
CSnet: p.tyers@trl.oz.au HAM: VK3KTS
MAIL: Telstra Research Laboratories,P.O. Box 249,
Clayton,VICTORIA 3168,AUSTRALIA

2989. Re: ***I BELIEVE TOO***REAL MONEY*** - money [1/1]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: cawings@ix.netcom.com
Message-ID: <4mujuc$ag@dfw-ixnews2.ix.netcom.com>
Source record: 105516
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.cb,rec.radio.shortwave,rec.radio.swap

In <4mrnt6$4mn@dfw-ixnews3.ix.netcom.com> cawings@ix.netcom.com(Crash)
writes:
>
>In <4mrft9$but@dfw-ixnews1.ix.netcom.com> casepum@ix.netcom.com
writes:
>
>
>Path:
>ix.netcom.com!ix.netcom.com!ixnews1.ix.netcom.com!howland.reston.ans.n

>!newsfeed.internetmci.com!news.sprintlink.net!new-news.sprintlink.net!

>clig
>From: MSRX4SU1@FS1.EC.MAN.AC.UK
>Newsgroups: alt.binaries.nude.celebrities
>Subject: EARN LOADS OF MONEY, EASY AND HONESTLY
>Date: Wed, 8 May 1996 17:37:10 +0100
>Organization: Nonsense
>Lines: 220
>Sender: Shalim Uddin <umbc@umbc.demon.co.uk>
>Distribution: world
>Message-ID: <wxF5FaA22MkxEwZZ@umbc.demon.co.uk>
>NNTP-Posting-Host: umbc.demon.co.uk
>X-NNTP-Posting-Host: umbc.demon.co.uk
>MIME-Version: 1.0
>X-Newsreader: Turnpike Version 1.12 <Qjcrk7CnFKNs7EtXqtabV1qqvm>
>
>
>Hello! I've got some awesome news that I think you need to take
>two minutes to read if you have ever thought "How could I make
>some serious cash in a hurry???" , or been in serious debt, ready
>to do almost anything to get the money needed to pay off those
>bill collectors. So grab a snack, a warm cup of coffee, or a glass
>of your favorite beverage, get comfortable and listen to this
>interesting, exciting find! > Let me start by saying that I FINALLY
>FOUND IT! That's right!
>I found it! And I HATE GET RICH QUICK SCHEMES!! I hate those
>schemes like multi-level marketing, mail-order schemes, envelope
>stuffing scams, 900 number scams... the list goes on forever. I
>have tried every darn get rich quick scheme out there over the
>past 12 years. I somehow got on mailing lists for people looking
>to make money (more like 'desperate stupid people who will try
>anything for money!'). Well, when I was a teenager, these

>claims to 'get me rich quick' sounded irresistible! I would shell
>out $14.95 here, $29.95 there, $24.95 here, and another $49.95
>there. I had maxed out my new Circuit City Card AND my Visa...I
>was desperate for money!! So, I gave them all a chance but
>failed at every one of them! Maybe they worked for some people,
>but not for me. Eventually, I just tossed that JUNK MAIL in the
>trash when I got the mail. I recognized it right away. I can
>smell a money scam from a mile away these days, SO I THOUGHT....
>I thought I could sniff out a scam easily. WAS I WRONG!!!
>...I LOVE THE INTERNET!!!
> I was scanning thru a NEWSGROUP and saw an article stating to
>GET CASH FAST!! I thought..."Here on the Internet?? Well, I'll
>just have to see what schemes could possibly be on the internet."
>The article described a way to MAIL A ONE DOLLAR BILL TO ONLY
>FIVE PEOPLE AND MAKE $50, 0000 IN CASH WITHIN 4 WEEKS! Well,
>the more I thought about it, the more I became very curious. Why?
>Because of the way it worked AND BECAUSE IT WOULD ONLY COST ME
>FIVE DOLLARS (AND FIVE STAMPS), THAT'S ALL I EVER PAY....EVER!!
> Ok, so the $50,000 in cash was maybe an tough amount to reach,
>but it was possible. I knew that I could at least get a return
>of $1,000 or so. So I did it!! As per the instructions in the
>article, I mailed out ('snail mail'for you e-mail fanatics) a
>single dollar bill to each of the five people on the list that
>was contained in the article. I included a small note, with the
>dollar, that stated "Please Add Me To Your List." I then removed
>the first position name of the five names listed and moved
>everyone up one position, and I put my name in position five of
>the list. This is how the money starts rolling in! I then took
>this revised article now with my name on the list and REPOSTED IT
>ON AS MANY NEWSGROUPS AND LOCAL BULLETIN BOARD
>MESSAGE AREAS THAT I KNEW. I then waited to watch the money
>come in...prepared to maybe receive about $1000 to $1500 in cash or
>so....
>But what a welcome surprise when those envelopes kept coming in!!! I
>knew what they were as soon as I saw the return addresses from people
>all over the world-Most from the U.S., but some from Canada, even
>some from Australia! I tell you, THAT WAS EXCITING!! So how
>much did I get in total return? $1000? $5000? Not even!!! I
>received a total of $23,343!!! I couldn't believe it!!
> I now have a brand new black Acura Integra to speak for, due
>to this!! Now after almost 8 months, I am ready to do it again!!!
>So maybe it was possible to get $50,000 in cash, I don't know,
>but IT COMPLETELY DEPENDS ON YOU, THE INDIVIDUAL! You
>must follow through and repost this article everywhere you can think
>of! The more postings you achieve will determine how much cash
>will arrive in your very own mailbox!! It's just too easy to
>pass up!!!
> Let's review the reasons why you should do this: The only
>cost factors are for the five stamps, the 5 envelopes and the 5
>one dollar bills that you send out to the listed names by snail

>mail (US Postal Service Mail). Then just simply repost the
>article (WITH YOUR NAME ADDED) to all the newsgroups and local
>BBS's you can. Then sit back and, (ironically), enjoy walking
>(you can run if you like! :o) down your driveway to your
>mailbox and scoop up your rewards!! We all have five dollars to
>put into such an easy effortless investment with SPECTACULAR
>REALISTIC RETURNS OF $15,000 to $25,000 in about 3-5 weeks! So
>HOLD OFF ON THOSE LOTTERY NUMBERS FOR TODAY,EAT AT
>HOME TONIGHT INSTEAD OF TAKEOUT FROM McDONALDS AND
>INVEST FIVE DOLLARS IN THIS AMAZING MONEY MAKING SYSTEM
>NOW!!! YOU CAN'T LOSE!!
> So how do you do it exactly, you ask? I have carefully
>provided the mostdetailed, yet straightforward instructions on
>how to easily get this underway and get your cash on its way.
>SO, ARE YOU READY TO MAKE SOME CASH!!!?? HERE WE GO!!!
>*** THE LIST OF NAMES IS AT THE END OF THIS ARTICLE. ***
>OK, Read this carefully. Get a printout of this information,
>if you like, so you can easily refer to it as often as needed.
>INSTRUCTIONS:
>1. Take a sheet of paper and write on it the following:
>"Please add my name to your list". This creates a service out
>of this money making system and thus making it completely legal.
>You are not just randomly sending a dollar to someone, you are
>paying one dollar for a legitimate service. Make sure you
>include your name and address. I assure you that, again, this
>is completely legal! For a neat little twist, also write what
>slot their name was in: "You were in slot 3", Just to add a
>little fun! This is all about having fun and making money at
>the same time!
>2. Now fold this sheet of paper around a dollar bill ,(no
>checks or money orders), and put them into an envelope and send
>it on its way to the five people listed. The folding of the
>paper around the bill will insure its arrival to its recipient.
>THIS STEP IS IMPORTANT!!
>3. Now listen carefully, here's where you get YOUR MONEY COMING
>TO YOUR MAILBOX. Look at the list of five people; remove the
>first name from position one and move everyone on the list up
>slot one on the list. Position 2 name will now move to the
>position 1 slot , position 3 will now become position 2, 4 will
>be be 3, 5 wil be 4. Now put your name, address, zipcode AND
>COUNTRY in position 5, the bottom position on the list.
>4. Now upload this updated file to as many newsgroups and local
>bulletin boards' message areas & file section as possible. Give
>a catchy description of the file so it gets noticed!! Such as:
>"NEED FAST CASH?, HERE IT IS!" or "NEED CASH TO PAY OFF
>YOUR DEBTS??", etc. And the more uploads, the more money you
>will make, and of course, the more money the others on the list will
>make too. LET'S ALL TAKE CARE OF EACH OTHER BY BEING
>HONEST AND BY PUTTING FORTH 120 PERCENT INTO THIS
> PROFITABLE & AMAZING SYSTEM!!! You'll reap the benefits, believe

>me!!! Set a goal for the number of total uploads you'll post, such as
>15-20 postings or more! Always have a goal in mind!!! If you can UUE
>encode the file when uploading, that will make it easier for the
>people to
>receive it and have it downloaded to their hard drive. That way
>they get a copy of the article right on their computer without
>hassles of viewing and then saving the article from the File menu.
>Don't alter the file type, leave it as an MS-DOS Text file. The
>best test is to be able to view this file using Microsoft's
>Notepad for Windows 3.x or WordPad for Windows '95. If the margins
>look right without making the screen slide left or right when at
>the ends of the sentences, you're in business!
>5. If you need help uploading, simply ask the sysop of the BBS,
>or "POST" a message on a newsgroup asking how to post a file,
>tell them who your Internet provider is and PEOPLE WILL ALWAYS BE
>GLAD TO HELP. I would try to describe how to do it but there are
>simply too many internet software packages with slightly different
>yet relatively simple ways to post or upload a file. Just ask for
>help or look in the help section for 'posting'. I do know that for
>GNN, you simply select 'POST' then enter a catchy description
>under the subject box, choose 'ATTACH', selecting 'UUE' and NOT
>'TXT', then choose 'Browse' to go look for the file. Find your
>text file CASH.TXT and click on it and choose 'OK'. Place a one
>line statement in the main body section of the message post
>screen. Something like "Download this to read how to get cash
>arriving in your mailbox with no paybacks!" or whatever. Just make
>sure it represents its true feasibility, NOT something like...
>"Get one million dollars flooding in your mailbox in two days!"
>You'll never get ANY responses!
>
>6. And this is the step I like. JUST SIT BACK AND ENJOY LIFE
>BECAUSE CASH IS ON ITS THE WAY!! Expect to see a little money
>start to trickle in around 2 weeks, but AT ABOUT WEEKS 3 & 4, THE
>MONEY STORM WILL HIT YOUR MAILBOX!! All you have to do is take it
>out of the mailbox and try not to scream too loud (outside anyway)
>when you realize YOU HIT THE BIG TIME AT LAST!!
>7. So go PAY OFF YOUR BILLS AND DEBTS and then get that something
>special you always wanted or buy that special person in your life
>(or the one you want in your life) a gift they'll never forget.
>ENJOY LIFE!
>8. Now when you get low on this money supply, simply re-activate
>this file again; Reposting it in the old places where you
>originally posted and possibly some new places you now know of.
>Don't ever lose this file, always keep a copy at your reach for
>when you ever need cash. THIS IS AN INCREDIBLE TOOL THAT YOU
>CAN ALWAYS RE-USE TIME AND TIME AGAIN WHEN CASH IS
>NEEDED!
>9. (This step added by Charles Reiley). Hello, This is exciting
>isn't it?! While I'm on the list, just add a note saying "Please
>include extra money tips" with your name & E-MAIL address, and I

>will (FOR FREE) send you some neat methods to increase the money
>you will receive with this plan. Why?... Why not? I'm not a selfish
>jerk...I like helping out others. E-mail just makes it a touch
>easier and cheaper, too! After I drop off the list, I can no
>longer offer you this advice, obviously, but maybe someone else
>who gets my tips will offer and simply replace my name on this step
>number 9. Good luck and give this plan your all, it will definitely
>pay off! Like Mike said, HAVE FUN WITH IT!!!
>**
>**
>THE NAMES LIST THE NAMES LIST THE NAME LIST
>**
>* HONESTY IS WHAT MAKES THIS PROGRAM SUCCESSFUL!!!
>*
>*
>
>
> 1. David Maxwell
> 1747 Stonybrook Ln.
> Brunswick, OH 44212
>
> 2. John F. Bourgeois
> 3043 New Oak Lane
> Bowie, MD 20716
>
> 3. Shalim Uddin
> 31 Sydenham Rd, Smethwick
> Warley, West Midlands,
> B66 2DE, UK
>
> 4. Joseph C. Stock
> 289 Village Street
> Millis, MA 02054
>
> 5. Bill Swearingen
> 4464 Mary Lynn Ln.#56-D
> Carmichael, CA 95608
>
>
>**
>NOTE:
>Try to keep a list of everyone that sends you a dollar and always keep
>an eye on the local postings of this file... Just to make sure that
>everyone is playing the game fairly. You know where your name should
>be.....
>*** AGAIN, HONESTY IS THE BEST THING WE HAVE GOING FOR US ON THIS
>PLAN.
>-Mike Dotson, Boulder, CO
>*** By the way, if you try to deceive people by posting the messages
>with your name in the list and not sending the money to the people

>already
>included, you will not get much. I know someone who did this and only
>got about $150 (and that's after two months). Then he sent the 5
>bills,
>people added him to their lists, and in 4-5 weeks he had over $10000!
>All the
>lists are re-distributed as soon as the money is received.
>
>*** What Mike said is true. I know you may think to yourself, what's
>the difference how's anyone going to know whether or not I sent out
any
>money. But just think. I mean if you don't send out any money, what
>makes you think that everyone else isn't thinking the same thing.
>Pretty soon you have 1,000's of people moving people's names and
>addresses on and off of lists, but no one is making any money. It only
>works as long as everyone stays honest pays their dues. Besides, if
>you're too cheap to spend $5.00, when in return you'll be making
>thousands, you should probably go do something else with your time and
>not screw up this great oppertunity for those of us that would really
>like to make some money.
>-Bill Swearingen, Carmichael, Ca.
>
>
>
>

2990. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: Mark Mandelkern <kn5s@lascruces.com>
Message-ID: <4muuuh$7l0@chile.lascruces.com>
Source record: 105517

Zack wrote:

>Flux calculations aren't as useful at HF, since the iron
>powder cores are typically limited by power dissipation,
>as opposed to core saturation. Ferrites are rarely useful
>in a high power tuned circut due to their poor temperature
>stability. I'd measure the Q and calculate the temperature
>rise. The flux formula is useful when designing a 50 kHz
>switcher.
>
>Zack KH6CP/1

Thanks, Zack; this is a great help. I've been worrying about saturation (as I thought that would mean IMD) for a long time, and the formulas and theory are way beyond me. I've probably cluttered up my gear with toroids larger than necessary just to be safe.

Does this mean I can use any size powdered iron core toroid I want at any frequency, so long as it doesn't get too hot to touch?

For example, I used three T50-10 in a LPF at the output of a 2 watt 50 Mc transverter. But maybe I could have used T37-10 or even T25-10? (I suppose the latter would mean smaller wire, and more loss, but I don't usually care about loss at that power level.) When I get to 144 Mc I go to air wound.

- Mark KN5S

--
Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

2991. Re: ***I BELIEVE TOO***REAL MONEY*** - money [1/1]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: jmrubin@ix.netcom.com
Message-ID: <4mv4ne$asp@sjx-ixn3.ix.netcom.com>
Source record: 105518
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.cb,rec.radio.shortwave,rec.radio.swap

Yes, and I also believe--in the laws of statistics and the criminal code. (At least if I can get caught.)

Look at http://www.usps.gov/websites/depart/inspect/chainlet.htm

Suppose one person makes $15K. Well, then they have gotten the equivalent of all of the entry fees of 3K people.

So, there must be 3K people getting $15K. So, they must have gotten the equivalent of the entry fees of 9 million people.

So, there must be 9 million people getting $15K. So, they must have gotten the equivalent of the entry fees of 27 billion people. Earth has 5.7 billion people.

In other words, this is a fucking fraud!

2992. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <319357EB.2537@crpl.cedar-rapids.lib.ia.us>
Source record: 105519

The Amidon data manual suggests values of flux *density* at various frequencies to prevent overheating. Graphical info is also given. If the flux density is limited to the values that they suggest, the number of turns and the maximum applied voltage at a certain frequency can then be calculated, using a formula derived from Faraday's law. These "guidelines" are the *same* for iron and ferrite cores. The flux density levels suggested are far below the saturation level and are based on a combination of hysteresis, eddy current and dielectric losses per unit volume, all of which increase rapidly with frequency. Saturation is not the criterion for these suggested values of flux density, which for iron is about 5000 Gauss and for ferrite about 2000 Gauss.

A further consideration is the value of inductive reactance at the lowest frequency of interest. For a given core this determines the number of turns. For a high permeability ferrite the required minimum number of turns is very small and for a given value of applied voltage this can cause the flux density to become too large and exceed the guidelines. If we increase the number of turns the inductance becomes much much larger, perhaps too large, and the Q can deteriorate, especially at the *high* end of the frequency range. So for high power, broadband RF transformer applications the larger, low permeability iron core or a low permeability ferrite would be desirable.

For transmatch baluns the large iron core, or perhaps multiple stacked cores, with a mu of 10 or 15 and many turns, seems to be the favorite, perhaps also because of its higher saturation level (less intermodulation distortion). This transformer will withstand fairly high voltages if it is used within the suggested Amidon guidelines at the various frequencies. If the core gets too warm (voltage too high), reduce the voltage level, either by reducing the impedance level or the power level.

Further info is in an article in QEX for May 1995, which was written in consultation with an Amidon engineer.

Bill W0IYH

2993. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4mvi3n$5hb@service2.uky.edu>
Source record: 105520

In article <4mt9mo$q5b@epx.cis.umn.edu>, rjg@itasca.stat.umn.edu (Robert J. Granvin) says:
>
>OK. Dunno if this is the right place to start, but in any case, would
>appreciate email as I tend to blow past a lot of news on the daily
>lack of time. :-(
>
>In doing some WWII POW research I ran across some mention of very simple
>shortwave or AM receivers that were being built in the barracks using
>(mostly) accessible materials... Kindof a crude crystal set without the
>crystal, centered, I guess, on a blue steel razor and a pencil lead.
>
>Haven't thought about it for a while until it came up in discussion
>elsewhere which timed perfectly with a museum display being discussed
>about POWs during WWII for this summer.
>
>I'm trying to track down information on these "homebuilt" radios and,
>if lucky, find a plan to actually construct an operational one to add
>into the display.
>
>It's kindof the other end of the scale from what traditional radios
>are today, but hoping someone out there has what I'm looking for...
>Or can point me in the right direction.
>
>Any info? Please email...
>Thanks,
>
>/bob
>
>\\ Robert J. Granvin rjg@stat.umn.edu
>// School of Statistics - University of Minnesota ICBM: 44.924 -93.212
> http://www.stat.umn.edu/~rjg
>Those who would sacrifice liberty for security deserve neither. -Ben Franklin
Boy does this take me back. In the third grade, about 1960, a friend had
an old Boys Life (the Boy Scouts of America Magazine). There was a
artical on a crystal-less radio. It used a blued razor blade as the
detector. We built two, using broomstick as the coil form, a 50' "long
wire" and split a WWII headset. The head set had a pair of magnetic
"cans", and I think they were about 2000ohms. Later dad order a crystal
earphone (from Burnstien And Applebe <spelling?>). The crystal earphone
worked much better than the magnetic earphone.
I think the the blue blades where "blued" with selenium. And that is how
the detector worked. We use Gillette (again spelling) blades, but I have
not seen any "stand alone" razor blades in years (or really decades).
I still have the crystal earpiece, and have built a crystal radio(with

a torroid and using a "hot carrier" diode as the detector) But, I have often thought of the old blue razor blade radio. My wife and a few friends thought me "kind of touched" when I mentioned this method of detection. You can also build a liquid detector, but I have forgotten the chemicals/electrodes that we used. We use a bent saftey pin not a pencil. I suspect that during WWI(the period that they did this, I think) they used read lead. But I am not sure.
Good luck

2994. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: "Tom V. Pfaffenbach" <tvpfaffe@mail.delcoelect.com>
Message-ID: <4mvgus$ovl@kocrsv08.delcoelect.com>
Source record: 105521

The razor blade and pencil lead (graphite) detector is a form of diode rectifier discovered in very early electrical experiments of resistance and conduction with alternating currents.

A semiconducting junction is formed between the iron doped with carbon to form the steel blade and the pure carbon of the graphite lead. In the early days of radio the "Coherer" detector was formed of iron filings between carbon buttons in a glass tube. Folks would shake the tube to obtain the best "Point-Contact" diode that they could get.

The circuit functions as any other diode detector. Any text on radio should have a functional description of how a rectifier is used to detect and de-modulate an amplitude modulated radio carrier wave.

If you want to "construct" one, go to Radio Shack, buy their crystal radio set, and after you have it set up and running, replace the crystal diode, with the pencil lead and razor blade. Connection to the lead is facilitated if you have an old Eversharp metal mechanical pencil or an old metal drafting lead holder!

Have fun and don't cut yourself!!

73 de K9JDU

2995. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4mvjkk$53a@orange.iap.net.au>
Source record: 105522

ylshih@alumnae.caltech.edu (Yin Lung Shih) wrote:

>Quick question -

>Is clear nail polish (apparently composed of two kinds of acetate and
>solvent) acceptable as coil dope? I'm building a project and thought
>I had read somewhere that it was so I used some on four coils. I checked
>the inductances and they measured the same before and after, but I wasn't
>able to check for possible Q degrading effects. After I soldered the
>coils in, I got some real Q-dope. Now I'm wondering if I should pull
>those coils and rebuild them. Any comments?

>Yin Shih, KO6VY, PP-ASEL-IA
>ylshih@alumni.caltech.edu

Old trick I used for many years. But can't say specifically
what it would be like at UHF and above, especially if any
power were involved. DON'T fire any r.f. into it before it dries!

Uncle Brian VK6BQN

2996. Tek scopes... what features?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: bob@waterw.com
Message-ID: <4n00rj$ei3@sea.waterw.com>
Source record: 105523

I've been thinking about buying a good scope for my workbench.
Being a software person, I have never used one "professionally,"
so I don't know the various features/models available. Because
of previous experiences, a Tektronics would be prefered, but
what are the advantages/problems of various models?

My basic requirements:

* Dual trace
* 20 MHz
* Not overly expensive, like under $400.
* Mainframe design seems nice since new features could
be added later (one I figure out what they do).
* Smaller size is prefered; a cart is definately out.

So, what are all these models? I see lots of 561A, 7403N, etc.
What's a decent type?

Bob

2997. MORSE CODE TUTOR FOR MAC???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: davidm@hous.inmet.com
Message-ID: <Dr7I2n.65J.0.-s@inmet.camb.inmet.com>
Source record: 105524

Hi

I'd like to find a Morse code tutor for the Macintosh.
Does anyone know of one? Share ware preferably!

David

2998. Re: MORSE CODE TUTOR FOR MAC???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: sholmes@cais.com
Message-ID: <sholmes-1005962006550001@192.0.2.1>
Source record: 105525

In article <Dr7I2n.65J.0.-s@inmet.camb.inmet.com>, davidm@hous.inmet.com
(David Martin) wrote:

> I'd like to find a Morse code tutor for the Macintosh.
> Does anyone know of one? Share ware preferably!

There are a number of 'em, of which my favorite is:

ftp://mirrors.aol.com//pub/info-mac/app/morse-trainer-111-us.hqx

Have fun! /s.holmes

--
Stephen R. Holmes | sholmes@cais.com | the usual disclaimers
Clifton, VA USA | | ...witty saying TBD

2999. WTB: Unassembled Heathkit Ham Gear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: msmith@aol.com
Message-ID: <4n13bm$gh@newsbf02.news.aol.com>
Source record: 105526

I am looking to purchase any and all unassembled Heathkit HAM gear that you may have. I will pay absolutely top dollar. Please let me have first crack at bidding.

Thanks,
Mark Smith

3000. List Of Stamp Applications [960508]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: cj@hth.com
Message-ID: <31937c6c.0@news.buller.se>
Source record: 105527
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
_____________________________________________________ _____
_____________________________________________________// L.O.S.A //_____

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
List Of Stamp Applications Date: 960508
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

Contents

_____________________________________________

1.0 What is BASIC Stamp ?
1.1 What is L.O.S.A all about ?
1.2 How can I contribute to this list ?
1.3 Where could I find L.O.S.A ?
1.4 List of contributions.
1.5 Credits and other things.

_____________________________________________

1.0 What is BASIC Stamp ?
-------------------------

This is being written for people who have no idea of what a BASIC
Stamp is...

BASIC Stamps are small reprogrammable single board computers (SBC)
that run BASIC programs and are made by Parallax, Inc. in US. At
first glance, they may seem fairly minimal - and in fact, they are.
But with software that fully utilizes all available hardware, the
Stamps give you powerful features - without the cost of hardware.

Their low cost and simplicity make the Stamps perfect for many
prototyping and control applications. It's suitable for electronics
hobbyists as well as electronics professionals in many different
areas.

Typical application areas for BASIC Stamp's are...

- General electronics
- Home automation
- Robotics
- Mini PLC
- Education
- Prototyping
- HAM related applications
- Special effects in films
```

- Industri control
- Geological instruments
- Computer peripherals
- Scale model hobbyists
- Model train hobbyists

As an talent engineer and technical writer expressed it...

- BASIC Stamp is the 555 of the 90's !

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remember it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share that's even better but it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------
Title :
Author: Date:
E-mail: (optional)
-------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
```

Code available: YES/NO
Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

If you don't have access to Internet you could send an SASE to the
address given below and I will return you a 3.5" DOS-disk with the
latest version in ASCII-format.

High Tech Horizon
Attn: L.O.S.A
Asbogatan 29 C
S-262 51 Angelholm
SWEDEN

1.4 List of contributions

> = Indicates a new or updated application since last time.

001 Robo-Cat
002 Logic Rudder
003 Interfacing MAX186 8 channel 12bit A/D
004 Scrolling LED Sign
005 Tone Decoder

006 Pager
007 HexWalker Mobile Robot
008 Robo Bug
009 EXPBOT Robot controlled by Stamp
010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer
016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader
020 Telephone Card Reader
021 DTMF Decoder
022 Ion chamber radiation monitor
023 Barn Monitor
024 Dallas one-wire interface
025 Sculpture control
026 Commercial clothes dryer controler
># 027 Morse Code Keyer
># 028 Traffic Light Controller
># 029 Automotive Lamp Control

==========
Title : Robo-Cat [# 001]
==========
Date : 950807
Author: Gustavson Guy W.
E-mail: GWGUSTAVSO@mpg.norstan.com

Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : http://www.winternet.com/~bigfoot/cat.html

Description :

My cat, Kesha, was recently diagnosed with Heptic Lipodosis. Or
"Fatty Liver", basicly what this means is that for some reason he
stoped eating and his liver started converting body to useable
sugars. The fat deposists biuld up in the liver and cause severe
liver damage. Because the liver isn't working well the cat feels
crappy and wants to eat even less. The treatment for this disease is
to run a tube down down the cats nose into his stomach, or a PEG
tube through the abomine wall into the stomach and feed the cat a
liquid diet this way.

I love my cat, but I can't be there every three hours to feed him
through the tube for a month. Something about work and deadlines and

such. So I went to a local supplus house and got a tiny motor driven pump, a case, some switches, a micro switch, ect...

The micro switch is mounted such that the switch trips for every rotation of the pump shaft. The stamp turns on the pump for on a single rotation at intervels programable from the controll switches on top. An alarm buzzer and LED flash if the pump fails to run for any reason. The unit is programable for 9 differents deleviery rates.

Now he gets a slow continuious feeding and he seems to tolerate this better than the 100ml feeding every three hours.

```
=============================================================================
Title : Logic Rudder [# 002]
=============================================================================
Date : 950812
Author: Christer Johansson
E-mail: cj@hth.com
-----------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : http://www.hth.com/filelibrary/BS1-IC/
-----------------------------------------------------------------------------
Description :
```

Many of the new and very realistic flight sims available today needs rudder to let you get full control. This one uses a digital pot from Xicor (X9104) and 10 other components. Connects to a standard IBM-PC game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right and to indicate when rudders move there is a red LED that lights up when you press the micro switches and to indicate center there is a green LED. If you press the both micro swithes the rudder will automaticly return to center position.

There is a trim pot to set the desired step rate from slow to very fast and the Xicor pot has 99 steps wich gives a fair resolution.

```
=============================================================================
Title : Interfacing MAX186 8 channel 12bit A/D [# 003]
=============================================================================
Date : 950925
Author: Helmut Fligge
E-mail: h.fligge@asco.nev.sub.de
-----------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A
-----------------------------------------------------------------------------
```

Description :

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via RS232 2400bps the stamp is asked to measure channel numbern. After conversion the result will be returned to the host computer as an ascii string (0 .. 4096). Conversion rate is about 4 measures per second.

==========

Title : Scrolling LED Sign [# 004]

==========

Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the prototyping area of a Basic Stamp rev D. A scrolling alphanumeric message moves one pixel at a time, just like real scrolling LED signs, except this one only displays one full letter or portion of two letters at a time as the message moves by.

==========

Title : Tone Decoder [# 005]

==========

Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Listens for telephone touchtones, displays phone numbers on LCD screen and echos them out RS-232 port. Circuitry fits in prototyping area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

==========

Title : Pager [# 006]

==========

Date : 950928

Author: Don McKenzie
E-mail: donmck@labyrinth.net.au

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : http://www.labyrinth.net.au/~donmck

Description :

This program for the Basic Stamp is used to monitor 4 hardware signals. If a change takes place, (after testing for a false trigger) then a cheap 2400 baud MODEM is used to dial into a Telecom Alpha-Numeric pager. It leaves a message which consists of a 2 digit I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110" means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a short period, then hanging up, the Stamp will dial your Pager and report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user wishes to add enchancements such as "Multiple Ring-In's" say within a minute, for a command selection, there is plenty of program space left.

==========
Title : HexWalker Mobile Robot [# 007]
==========
Date : 950929
Author: T. R. Thornton
E-mail: mandtsys@ix.netcom.com

Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A

Description :

HexWalker is a six legged mobile robot that is controlled by a BASIC Stamp or BS1-IC, and driven by three servo motors (similar to Futaba S148). It is the simplest walking machine architecture that can walk forward, backward, and turn left or right.

==========
Title : Robo Bug [# 008]
==========
Date : 951003
Author: David Novick

E-mail: dkn@cimar.me.ufl.edu

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn

Description :

Using two stamps, a robot with six legs (2 degrees of freedom each) was able to walk and turn (at this stage, not very gracefully).

==========
Title : EXPBOT Robot controlled by Stamp [# 009]
==========
Date : 951009
Author: Marvin Green
E-mail: marvin@agora.rdrop.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it

Description :

This program allows a cool robot to move abound a room in search of light. Like a moth. Simple program changes can dramatically change the robots behavior.

==========
Title : Andrews Ever Evolving Lego Robot [# 010]
==========
Date : 951119
Author: Andrew H. Hochheimer
E-mail: softarts@ciaccess.com

Stamp model : BS2-IC
Code available: YES
Filename : N/A
URL : http://www.wincom.net/~softarts

Description :

Currently the robot can only navigate to the brightest light source in a room. It's current operation mode has four major steps: - Scan a 180 Degree Field of "Vision" taking light level readings, and determining the brightest direction of light. - Decide if it needs to turn left, right, or continue moving forward. - Check for collision with an object while moving, if a collision occurs, display the total travel distance on the display - Move forward for 1.5 Seconds and then repeat the process.

Currently I am using Two Futaba FP-S128 Servos (any RC Car Servos would work) one to sweep it's "sensors" form left to right, and one to "stear" the robot.

You can see pictures and more information on my homepage, just follow the lego robot link.

==========
Title : Factory Monitoring System [# 011]
==========
Date : 951120
Author: Paul Willemse
E-mail: pjwill@merlion.singnet.com.sg

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author

Description :

The system presently consists of 4 Basic Stamp units. Each monitors up to 5 inputs. The inputs are 'digital' (switches) and/or analog (temp, airflow, current, etc using commercial sensors). All stamps communicate the results via serial mode to a Macintosh (Yes a Mac!) where the results are graphically displayed and monitored. Alarms are set for certain conditions.

The transmission is simple, one way only. Each stamp sends the info at a 'random' interval not exceeding 2 seconds. The message format is fixed, the Mac will throw away any conflicts in case two or more stamps transmit at the same time. BTW this happens very seldom. The max time any stamp can be 'absent' from the chain before an alarm is raised is six seconds (failure, transmission collisons, etc). This is controlled by the Mac.

The 'system' is presently in beta test, the client wishes to expand up to 20 stamps. At that point we will likely use the BS1-IC or BS2-IC on custom boards located around the facility.

Code is available upon request (e-mail) partial, some is proprietory to my client.

==========
Title : Wave to the Cats/Desk Temperature [# 012]
==========
Date : 951121
Author: Paul Haas
E-mail: paulh@hamjudo.com

Stamp model : BS1-IC
Code available: Yes
Filename : See web server

URL : http://hogwild.hamjudo.com/cgi-bin/stamp

Description :

The Stamp has a serial connection to web server, a cardboard hand, a servo motor to move the hand, and a DS1620 thermostat chip to measure the temperature. The web server can request the current temperature or start the hand waving. See the web page for the source code for the temp and the web server.

It's mostly useless. The cats ignore the hand. A few people find it entertaining.

==========
Title : Gamer's Die Roller [# 013]
==========
Date : 951122
Author: Larry Tremblay
E-mail: ltremblay@domus.com

Stamp model : BS2-IC
Code available: N/A
Filename : N/A
URL : N/A

Description :

The Gamer's Die roller is a little thing I am putting together as my first Stamp Project. The Roller allows cumulative rolls of n dice up to 256 sides, so long as the sum does not exceed 99,999,999(!)

It uses two 74HC161 4 bit counters cycling at 1MHz to draw random numbers off of. Input is achieved via a Grayhill model 38 keypad and a 74C922 keypad decoder. Display is on a Siemens PDSP-2111 8 character smart display (5x7 LED characters) fed by two 74HC164 serial to parallel shift registers cascaded so I can use Shiftout to feed 16 bits of control + data off of 2 pins.

The code is very simple, the most exotic part being the random number generation. In a nutshell, it is:

Begin Loop
S = 8 bit number drawn from the counter (random)
if S < (255/N) x N (integer divide, N is number of sides on die)
exit Loop
End Loop

This gets (pseudo) random numbers whose average is not skewed downwards by the counter's max of 256 (i.e. a 100 sided die is not affected by the extra 56 in the count maximum)

Using gamer's dice notation, (5d6 = sum of 5 six sided dice, 3d10 = sum of 3 ten sided dice), the user can input whatever combination

they wish, including just 'd6' for one six sider. The keypad I have has removeable keycaps with legends, so I have 0-9 plus 'd' and '=' on them.

As noted earlier, since I am using an 8 bit counter, the maximum die size is 256, although that could be fixed easily by sampling two, three or more times for each die.

Anyhow, that's it. When the code is done and debugged, I'll be happy to e-mail it to any who want it.

```
=========================================================================
Title : Stamp II Serial I/O [# 014]
=========================================================================
Date : 951128
Author: John Hansknecht
E-mail: Hansknec@cebaf.gov
-------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: Yes
Filename : HAL01.bs2 and HAL01.bas
URL : ftp.parallaxinc.com
-------------------------------------------------------------------------
Description :
```

A bare-bones demonstation of 2 way serial communications between a PC running Qbasic and 1 or more Stamp II's.

```
=========================================================================
Title : Voice and CW Fox Hunt Transmitter IDer [# 015]
=========================================================================
Date : 951221
Author: Sam Guccione
E-mail: sguccion@outland.dtcc.edu
-------------------------------------------------------------------------
Stamp model : Counterfeit Stamp
Code available: Yes
Filename : Revision of S. Edwards MORSE program
URL : N/A
-------------------------------------------------------------------------
Description :
```

An IDer based upon the MORSE program. Has 4 time delays as well as a random time delay. Circuitry includes selection of a voice id using the Radio Shack 10 voice board or the Walden bookstore 10 sec talking gift card. This is a very simple circuit and program but was developed by my students under my direction.

May be of interest to someone out there.

```
=========================================================================
Title : Lift (elevator) Controller [# 016]
=========================================================================
```

Date : 951225
Author: Dave Bell
E-mail: dbell@cup.portal.com

Stamp model : Faux Stamp (BASIC Stamp clone)
Code available: Yes
Filename : Upon request
URL : N/A

Description :

A simple control loop monitoring lift Call buttons (with debounce) and Limit switches, forbidding manual control past limits, and enforcing a Stop before reversal of direction. This will be used in an owner -designed and -built single story platform lift for a home.

==========
Title : Paging with the Stamp [# 017]
==========
Date : 960104
Author: Kurt Clement
E-mail: kclement@kraft.com

Stamp model : BASIC Stamp Rev. D
Code available: Yes
Filename : monitor.bas
URL : N/A

Description :

Use the Stamp to monitor several inputs, two temperature and two contact closures in this application. When inputs go outside set limits, dial pager and send coded message. Used to monitor power failures and temperatures for computer and network equipment since August 1994, running on 9 V power supply from one of the UPS units.

==========
Title : Switching Sytem [# 018]
==========
Date : 960109
Author: Alexander Avendano
E-mail: aavendan@aros.net

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

I'm almost finishing a Basic Stamp Based Switching System (Small Phone system) which I consider very usefull for small companies that

cant'n afford other brands. This is designed with a host computer which will have a vox-mail and all the functions like big ones to choose. I'm using BS1-IC's for the extensions process right now.

As soon I have complete it I will give the code away for small Intelligent Switching phone system up to 2 Lines and 4 Extensions using the L.C.D serial circuitry for information display. I forgot to mention that the computer (Host for many processing functions) will be running under Windows 3.1 and Windows 95, making this way a usefull computer not only for the phone system but for ithers application at the office.

Please be free to send me E-mail, about any suggestion.

```
==========================================================================
Title : Door Entry Card Reader [# 019]
==========================================================================
Date : 960110
Author: Ed Buckley/J J Barbarello
E-mail: ed@milinst.demon.co.uk
--------------------------------------------------------------------------
Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : N/A
--------------------------------------------------------------------------
Description :
```

Stamp 1 based version of the Card Reader article by J J Barbello as described in the August 1995 edition of Electronics Now. This version uses the Stamp 1 as a local controller determining the card number and deciding whether or not to allow door opening. Optional serial comms back to a master controller and optional local message readout using an LCD Backpack.

Lots of scope for further enhancement/experimentation. Circuit schematic and listing available.

```
==========================================================================
Title : Telephone Card Reader [# 020]
==========================================================================
Date : 960119
Author: Francesco Volpe
E-mail: f.volpe@ee.mu.oz.au
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : TELEMARK.LZH
URL : ftp://ftp.ix.de/pub/elrad/010/
--------------------------------------------------------------------------
Description :
```

The BS-II is used to read a German telephone card, which is a smart card. For more details see the German Electronic Magazine ELRAD (http://www.ix.de/el).

The data is transfered via RS232 to any terminal program.

==========
Title : DTMF Decoder [# 021]
==========
Date : 960125
Author: Joe Altieri
E-mail: radioman@banished.com

Stamp model : BS2-IC Module
Code available: YES
Filename : DECODE.BS2
URL : N/A

Description :

A new parallax BASIC Stamp II program for decoding a nine digit DTMF sequence of "Touch Tones" for remote activation/de-activation of any electrical appliance via Ham Radio, radio link, telephones, intercoms, etc.

==========
Title : Ion chamber radiation monitor [# 022]
==========
Date : 960125
Author: Jeffrey L. Rothman
E-mail: rothman@bnlls1.nsls.bnl.gov

Stamp model : BS1-IC Module
Code available: YES
Filename : RADMON12.BAS
URL : N/A

Description :

A Basic Stamp monitors the operation of an ion chamber radiation detector. The ion chamber and related circuitry produce a signal with a frequency proportional to the dose rate. The Stamp measures the frequency and calculates the dose rate and total integrated dose.

The results are displayed on a log scale panel meter and an LCD respectively. The dose rate is also transmitted over RS-232 to a remote PC.

A Front panel button allows the user to reset the total integrated dose. Another button allows the audio alarm to be muted at low dose rates.

```
==========================================================================
Title : Barn Monitor [# 023]
==========================================================================
Date : 960203
Author: Lynn A. Roth
E-mail: lynnr@hesston.edu
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author
--------------------------------------------------------------------------
Description :

The Barn Monitor checks the temperature in 5 rooms of a farrowing
house. The temperatures are taken by DS1620 chips.

If the temperature goes outside the limit set by the farmer, the
Stamp dials a pager using a 2400 baud MODEM. The same occurs if the
power goes out.

==========================================================================
Title : Dallas one-wire interface [# 024]
==========================================================================
Date : 960212
Author: Daniel G. Clemmensen
E-mail: dgc@shirenet.com
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.shirenet.com/~dgc
--------------------------------------------------------------------------
Description :

As part of a furnace controller project, I've interfaced A Stamp II
to a string of Dallas 1820 digital thermometers. The interface
consists of three cheap IC's and some subroutines. A design note and
a demo program are available on the web. I have successfully tested
the interface with a string of twelve 1820's.

I have not yet tested it with other one-wire devices, although I
will update my web site when I do.

==========================================================================
Title : Sculpture control [# 025]
==========================================================================
Date : 960323
Author: Pierre Olivier
E-mail: olipie@aei.ca
--------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: N/A
```

Filename : N/A
URL : N/A

Description :

I have been working with sculptors for some time doing control circuits for their works using 555 (limited), industrial controllers (expensive and hell to program) and lately Basic Stamp.

Our latest piece deals with image deconstruction: it consists of 20 vertical cylinders on which an image is wrapped. Each has a photo detector to detect "position zero", and a custom basic stamp board with a MC3479 step motor driver that drives a step motor which turns one cylinder. Each cylinder can thus have its own routine which positions it precisely (400 steps/rev motors) where we want it for any amount of time, at any speed (very interesting sonically at sub-second stepping speeds!).

The stamp outputs direction, step and enable signals to the motor driver and a ready signal to a common line. It receives signals from the aforementionned ready line, and from the optical sensor.

It would have been quite a bit more complicated, bulkyer and expensive to implement this project without the stamp.

==========
Title : Commercial clothes dryer controler [# 026]
==========
Date : 960401
Author: J Amy
E-mail: Kuznjack@aol.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : N/A

Description :

Detects drop of coin and increments time remaining register. Actuates main and heat relays. Checks temperature, and controles heat relay Periodically decriments time remaining register. Provides cool down cycle in last four minits.

Replaces original controler which costs several hundred dollars, and is not reliable.

==========
Title : Morse Code Keyer [# 027]
==========
Date : 960415
Author: Richard Clemens
E-mail: clemens@academ.wvwc.edu

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.ccue.org/stamps/morse2_bs2.html

Description :

This program provides a four message keyer for Amateur Radio. The user can input four different messages, their character counts, and use four buttons to display the output and/or key a transmitter.

NB: the messages are limited to the upper and lower case letters, digits 0-9, space, period, comma, ? and /

Program is based on the information in Stamp I - Note 8 and uses some code from that note.

==========
Title : Traffic Light Controller [# 028]
==========
Date : 960418
Author: M-Systems Inc.
E-mail: mstems@aol.com

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

We have used a BS1-IC to control a simple two way intersection coordinate the timing and switching of a traffic light at a two way traffic intersection.

==========
Title : Automotive Lamp Control [# 029]
==========
Date : 960427
Author: Ron Woodward
E-mail: RWoodward@gnn.com

Stamp model : BS2-IC Module
Code available: N/A (Will share concepts)
Filename : N/A
URL : N/A

Description :

This system involved connecting two BS2 units to a bank of 28 MOSFET drivers which controled the external lighting in a demonstration

vehicle shown at the SAE expo in Detroit MI.

The lighting control had to perform PWM modulation simultaniously on 10 different circuits while controling Turn, Stop, Tail, Backup Hi Beam, Low Beam and fog lamp circuits with a set of preprogrammed timing sequences.

The timing was worked out so that the PWM of the lamps was flicker free throughtout the demonstration sequence.

The BS2 units worked together in a master - slave relationship to maintain proper sequencing of lights on both hands of the vehicle.

==========

1.5 Credits and other things

Credits should go to all of you who makes this list possible I hope it suffices to say "Thank you to all who have contributed to L.O.S.A - we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support this great products !

If there is anything you think I've missed (or spelled wrong <g>) I would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@hth.com

Stay tuned,

/Christer

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-=-=-=

3001. Free Tube & swap wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-10 00:00:00 UTC
From: mitchell@scoot.netis.com
Message-ID: <Dr7B2D.802@scoot.netis.com>
Source record: 105528

I have many useful parts to try to peddle. The items are listed below
and priced to go fast. They will be sold first come first serve.
Get back to me fast or make offer if only kinda interested.

IO card providing 2 com ports $3

SCSI controller cable. 3 feet or so long. Has 2 internal 1 extarnal
SCSI connections
$3 ($5 to $15 new)

==========
FREE Stuff Just pay Shipping

Amiga Rom kernel manual
Amiga dos Developers Manual
Amiga Dos Technical Ref Manual
Amiga Hardware Manual
Amiga Intuition Reference Manual
Amiga memory chips
Amiga world mags 1986 thru 1993

==========
Radio Gear

KLM Multi 2700 2meter multi mode transceiver for sale or swap.
has AM, FM WIDE AND NARROW, SSB, and CW. select frequency using
VFO or dial in. Has built in 10meter receiver also for OSCAR
satellite. This radio does just about everything. Sold for over
$800 when I bought it. I have not used in several years, and
want something slightly smaller and different. I would like to
swap for a 2meter/440mhz rig or perhaps sell.

several 23 channel cb mobile sets $7

FREE!!!!!!!!!!
750TL Xmitting tube. This is not a working one, but is a very
old high power transmitting tube from a by gone era. It has
collector value and is great for conversation piece, or unique
lamp. I will give this to a good home for price of shipping.

==========
DragonQuest 3rd Edition 1989 printing. Fantasy Role-Playing Game
System manual $5

Dragon mag back issues #79, 66, 67
Different Worlds issue #12 7/1981
all above $5

Advanced Dungeons & Dragons dungeon masers guide (1979) $4
Advanced Dungeons & Dragons monster Manual (1978) $4
Advanced Dungeons & Dragons player handbook (1978) $3

3002. Re: HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: mluther@tamu.edu
Message-ID: <4n19i9$ie4@news.tamu.edu>
Source record: 105430
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew
Body handling: HTML body converted to readable text

In <3192B34A.6EF1@trl.oz.au>, P Tyers writes:
>Monty Wilson wrote:
>>
>> billp8@atl.mindspring.com (Bill Poston) wrote:
>> >I am attempting to homebrew a quad antenna. I have read Cubical Quad
>> >Antennas by W6SAI and the ARRL Antenna Book. Neither answers my question.
>> >
>> >How do I connect one coax feedline to the multiple loops on the driven
>> >element?
>> >
>> >Please explain in detail so that a dummy can understand.
>>
>
>Have another read of Cubical Quads. What you actually end up
>doing is producing a multiple gamma match, one for each loop.
>Of course they interact to all heck while being adjusted.I
>seem to recall that the preferred order of adjustment was
>from smallest loop to largest loop for minimum interaction -
>BUT I COULD BE TOTALLY WRONG ON THIS.
>
> Another source of information is a series of articles
>published in the Wireless Institute of Australia magazine
>"Amateur Radio" about 15 +/- 5 years ago on multiband quads
>which had several column inches on the care and feeding of
>these gamma matches.
>
>Hope this helps!
>
>--
>P Tyers, Tel. +61-(0)3-92536794
>AARnet: p.tyers@trl.telstra.com.au
>CSnet: p.tyers@trl.oz.au HAM: VK3KTS
>MAIL: Telstra Research Laboratories,P.O. Box 249,
> Clayton,VICTORIA 3168,AUSTRALIA

You're right on target! Highest to lowest frequency.

It takes some juggling.

However, once done, the match stays done.

I've used the gamma match feed system on quads (and virtually everything
else I can reasonably adapt it to. It works on the quads VERY well.

Another tip. In stead of chasing all over heck and back for big variable capacitors as you get down to 40 and 80 meter quads, use a chunk of RG-8 coax cable as a capacitor. It has capacity and a nice hefty dialectric that will let you use the inner conductor as one arm of a capacitor and the outer shield as the other arm. You get it too long by a foot or so for the total capacity you need. You whackem off an inch or so at a time at lower power to trim away the capacitance. You use a much smaller air variable for the trimmer.

When done, presto, BIG heavy cap for 40 and 80 meter versions heap cheapo.

Be sure to trim away some of the braid and leave an inch or so of the inner conductor and insulation extended to avoice arcing at high power....

Tape the end up to excude water.

Smile all the way to the bank.

:)

Mike W5WQN as a guest at leviathan.tamu.edu (No mail address there)

3003. Re: RF filter needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: parf@aol.com
Message-ID: <4n14dt$1bu@newsbf02.news.aol.com>
Source record: 105431

Our company has a patent pending asymmetrical notch filter technology. Our skirts are stteper than other devices we've seen on the market but cannot begin to approach what you are seeking. Give up on the filter idea and go for abn antenna w/ a sharp notch.

73, Dale WA2YPY

3004. Re: 1750m Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: DENNIS BAKER <wbfim@sound.net>
Message-ID: <4n277c$k3e@guitar.sound.net>
Source record: 105432

Fair Radio sells a manual or how to book on low frequeny operation. I beleive that it is the 7th in a series and has lot of good information in it

Dennis
KE0QM

3005. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4n2h4j$kff@crash.microserve.net>
Source record: 105433

Zack Lau <zlau@arrl.org> wrote:

>Jack wanted me to point out that the flux values
>he mentions aren't related to saturation--that they
>are Amidon's estimates for RF operation.
>
>OTOH, I don't see how flux values can accurately predict core
>losses if it ignores the core material.

Amidon claims that the figures shown in their guidelines for maximum permissable flux "may vary slightly according to material used." If the number of turns is adjusted from one core material to the next so that the inductance of each winding is kept the same, the flux (loss) will indeed be shown to increase with permeability, according to the Amidon formula. This is due to the relationship between inductance and the number of turns.

The following examples illustrate this. Each assumes the core is used to create an inductor with a single winding. The winding is shunted across a 50 ohm circuit operating at a power level of 1 KW at 7 MHz.

CORE u Turns uH Flux

T-200-6 8 25 6.25 22
T-200-2 10 23 6.35 24
FT-240-67 40 11 6.41 42
FT-240-61 125 6 6.23 76
FT-240-43 850 2* 4.96 229

*Nearest whole number producing similar inductance

From this, it can be seen that for a particular inductance, flux increases as the permeability of the core rises. Amidon's guideline for flux at 7 MHz is 57 gauss. Therefore, in this application, only the first three cores would be suitable. If this was a narrowband application, the iron powder cores would be preferable due to their higher Q and more stable temperature characteristics. On the other hand, a broadband transformer application would probably require the FT-240-67 due to its use of fewer turns. The latter results in reduced interwinding capacitance and extended high-frequency response.

73,
Jack WB3U

3006. Re: Tek scopes... what features?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4n2h2v$kff@crash.microserve.net>
Source record: 105434

bob@waterw.com (Bob Applegate) wrote:

>I've been thinking about buying a good scope for my workbench.
>Being a software person, I have never used one "professionally,"
>so I don't know the various features/models available. Because
>of previous experiences, a Tektronics would be prefered, but
>what are the advantages/problems of various models?

Some years ago, I went looking for a 100 MHz scope. HP was not in my price range, but I wanted to buy an American product. Unfortunately, the under-$2,000 line from Tek didn't have horizontal/vertical sync separators for triggering on video, nor was it available as an option. I ended up buying a Japanese brand for about $1,200 that had it as a standard feature.

73,
Jack WB3U

3007. Re: Toriod power handling capacity

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <3194F09A.787B@crpl.cedar-rapids.lib.ia.us>
Source record: 105435

WB3U wrote:
>
> From this, it can be seen that for a particular inductance, flux
> increases as the permeability of the core rises.
>

The proper term to use is flux density, not flux. Amidon suggests 57 Gauss at 7 MHz. Gauss is a flux density term. The flux density is determined by the "volts-per-turn", the core cross section and the frequency, all of which are basically independent of permeability. Note that the path length (diameter) of the core is not mentioned, but a large core has more turns, therefore a smaller volts-per-turn.

The exposed surface area also affects temperatur rise to some extent, and Amidon talks about that also. A large core is better because it dissipates heat better. It is also probably not good to have a transformer "mummified" with lots of tape.

Bill W0IYH

3008. TS-32 PL Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: dougd@lrbcg.com
Message-ID: <4n2q98$p6d@news.dx.net>
Source record: 105436

Does anyone have the address for "Communication
Specialists", or know the pricetag for their TS-32 PL
Decoder?

Doug
KC8CGX

North Central Ohio Skywarn Info
http://www.amnorth.com/redbone/skywarn.html
http://www.amnorth.com/redbone/ham-page.html
http://lrbcg.com/dougd

3009. Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: cj@hth.com
Message-ID: <31951b27.0@news.buller.se>
Source record: 105437
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi,

>Why are you posting this crap about stamps? It costs me money
>to download news and I can't pick and choose. Who the Hell asked
>you to do this?

Received several of the above e-mail from a person who didn't like
to give his name or e-mail address, he used an anonymous-remailer !

However I would like to hear if others feel the same about L.O.S.A
and if thats the case I will stop posting it.

I understand that not everyone is using the STAMP but I think many
people enjoy reading what could be done and maybe get som hints or
inspiration for applications of their own or am I wrong ?

Regards,

/Christer

-=-
* High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
-=-
* Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-

3010. Re: Audio input/output

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.132.0018F43F@mindspring.com>
Source record: 105438

In article <4n3cmv$20n@whales.netwave.net> bkollar@maui.netwave.net (Brett Kollar) writes:
>I would like to send the output from two different audio sources to
>the same input device. My consern is "back-feeding" one of the other
>output devices and I am looking for an easy way to prevent this. The
>crude drawing below explains what I am really trying to say...

```
+------R2-----------------+
| |
| node |\ |
>Audio 1======|---R1- + -+---|-\NE5532 (or 741) |
> | | \________--------+----===INPUT
> | | /
> | +-|+/
>Audio 2======|---R1 ----+ | |/
V (gnd)
```

Gain for each channel is -(r2/r1)
The point labelled "node" is a "virtual ground" and wont let audio leak.
Input impedance is r1.
output impedance is near 0 ohms.
NE5532 is a lo-noise OPAmp (< $0.75 at digikey,
more some places, less others)
741 is standard (noisy) op-amp, very cheap.
both "R1's" do not _have_ to be equal if you would like
different gain for each "audio"
for audio, I would keep the gain below 10. (5 , 2 or 1 work well)

>Can I just add a diode to the audio outputs to prevent the "back-feed"
>or is there something more to it???

No, diode won't work.

>Thanks for the input (no pun intended)
>Brettt Kollar
>bkollar@maui.netwave.net

Regards,
Ed KB4ORA

3011. grid driving 4cx1600

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-11 00:00:00 UTC
From: ellope@shasta.com
Message-ID: <ellope.39.0015D5B0@shasta.com>
Source record: 105439

I am thinking of building an HF amp. useing a 4cx1600B. The manufacture of the tube recemends grid driving whith a 50 ohm resistor. I have never built a grid driven amp of this type and was woundering if there is someone out there that might be able to give me some feedback on this.

3012. Audio input/output

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: bkollar@maui.netwave.net
Message-ID: <4n3cmv$20n@whales.netwave.net>
Source record: 105440

I would like to send the output from two different audio sources to
the same input device. My consern is "back-feeding" one of the other
output devices and I am looking for an easy way to prevent this. The
crude drawing below explains what I am really trying to say...

```
Audio 1======|
|
======= Input
|
Audio 2======|
```

Can I just add a diode to the audio outputs to prevent the "back-feed"
or is there something more to it???

Thanks for the input (no pun intended)
Brettt Kollar
bkollar@maui.netwave.net

3013. Re: Audio input/output

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <4n3kjt$2uq@excelsior.flash.net>
Source record: 105441

bkollar@maui.netwave.net (Brett Kollar) wrote:

>I would like to send the output from two different audio sources to
>the same input device. My consern is "back-feeding" one of the other
>output devices and I am looking for an easy way to prevent this. The
>crude drawing below explains what I am really trying to say...

Brett,
Diodes won't do what you want since audio is basically "fast
a.c." The way I usually do it is a quick and dirty audio mixer using
op-amps. I think Rat Shack has one of their little "Engineering
Notebooks" with the schematic and instructions for it. You can use as
many as you want to make more inputs.
73,
Kerry Miller
WD5ABC

3014. make money

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: angel vilaseca <100604.1242@CompuServe.COM>
Message-ID: <4n463p$g4b$1@mhadf.production.compuserve.com>
Source record: 105442
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap,rec.video.satellite.tvro,sci.electronics.equipment

Yes, make money: sell me your unused 20 Watts (or more)
Travelling wave tube amplifier usable at 10 GHz.

Angel Vilaseca

3015. 2m amp using 2 x 4CX250B

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: Milan <milank@merck.cz>
Message-ID: <01BB3FEF.DCB98520@ta013.czech.net>
Source record: 105443

Hello all,
I am going to build 2m amp. using 2 x 4CX250B tubes, but till now, I did =
not find suitable description with schematics. I just found an article =
in QST 1971. If you know where to find it, please let me know. I would =
be happy for any info.

Milan, OK1DXH
milank@merck.cz

3016. Re: TS-32 PL Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: WD8DZB
Message-ID: <3195cab2.2554506@news.primenet.com>
Source record: 105444

dougd@lrbcg.com (KC8CGX) wrote:

>Does anyone have the address for "Communication
>Specialists", or know the pricetag for their TS-32 PL
>Decoder?
>
>Doug
>KC8CGX
>
>____
>North Central Ohio Skywarn Info
>http://www.amnorth.com/redbone/skywarn.html
>http://www.amnorth.com/redbone/ham-page.html
>http://lrbcg.com/dougd
>
Doug,

Communications Specialists, Inc.
426 West Taft Ave.
Orange, CA 92665-4296
(714) 998-3021 FAX (714) 974 3420
1-800-854-0547

The TS-32P Encoder-Decoder Was $ 57.95 (1-9), last time I bought
'em.

73, WD8DZB

3017. Balun Article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: TJB94002@UConnVM.UConn.Edu
Message-ID: <177857D7DS86.TJB94002@UConnVM.UConn.Edu>
Source record: 105445

Some months ago there was an article either here or in the antenna group about design notes for baluns. It was several pages long and included several test type drawings of balun configurations. In addition, there were many suggestions about winding style, bandwidth and materials. I don't recall the author either.

I thought I printed a copy but now that I need it, I can't find it.

Please email me or post on the group.

Thanks, Ted.

3018. Re: make money

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: sam@stdavids.picker.com
Message-ID: <SAM.96May12072811@colossus.stdavids.picker.com>
Source record: 105446
Cross-posted to:
rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.swap,rec.video.satellite.tvro,sci.electronics.equipment

In article <4n463p$g4b$1@mhadf.production.compuserve.com> angel vilaseca
<100604.1242@CompuServe.COM> writes:

> Yes, make money: sell me your unused 20 Watts (or more)
> Travelling wave tube amplifier usable at 10 GHz.

> Angel Vilaseca

At least it is not a chain letter scam. It is probably not a good idea
to put 'make money' in your header - I bet a lot of the types who read
these particular groups have such things in their kill files.... :-)

--- sam

3019. Re: Audio input/output

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996May12.135108.1390@ke4zv.atl.ga.us>
Source record: 105447

In article <4n3cmv$20n@whales.netwave.net> bkollar@maui.netwave.net (Brett Kollar) writes:
>I would like to send the output from two different audio sources to
>the same input device. My consern is "back-feeding" one of the other
>output devices and I am looking for an easy way to prevent this. The
>crude drawing below explains what I am really trying to say...
>
>Audio 1======|
> |
> ======= Input
> |
>Audio 2======|
>
>Can I just add a diode to the audio outputs to prevent the "back-feed"
>or is there something more to it???

No, you can't just add a diode. Audio is not DC. A diode would just
halfwave rectify the signals and make them sound like crap.

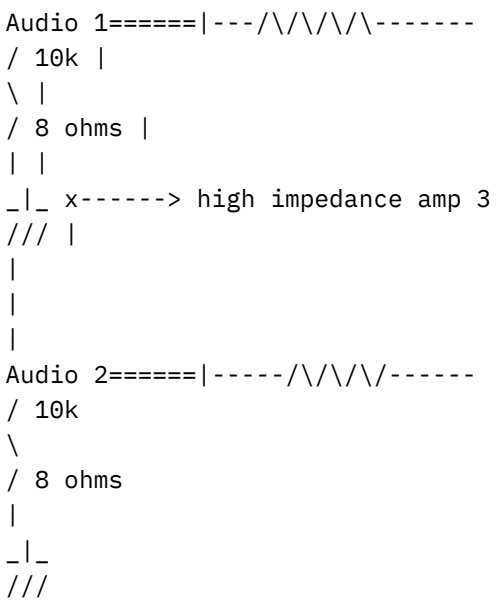
What you want is called a *mixer*. A classic mixer has variable attenuators
feeding a common buss which is at a very much lower impedance than the inputs
to the attenuators. That low impedance buss is then in turn amplified by
an output amplifier with a very low input impedance and an output impedance
compatible with the device it is to drive. Usually a variation of the
common opamp circuit is used since it offers a "virtual ground" impedance
at its input. This reduces greatly the amount of signal that can flow in
through one attenuator and then back out through another.

If the two input signals are low level, then preamps are usually placed
before the attenuators, and these have sufficient S21 isolation to prevent
any backfeed problems.

Now if the two sources are fairly high power, and you can't afford to
discard that power, you have a problem. The circuit you need then is
called a hybrid combiner, and they are very hard to make work correctly
over a multi-octave range. You should probably rethink the problem at
this point.

If you can afford to discard the power, however, then you can use a
simple *bridging* circuit. In this circuit, you terminate each of the
sources in its design impedance (say 8 ohms for an audio power amplifier),
and then bridge across it with a high impedance (say a 10k ohm resistance).
You can then tie these bridging resistors together to form the combined
signal. That will then be amplified by a high input impedance amplifier
and fed to the third device. Backfeed will be reduced in proportion to
the ratio of the terminating resistance to the bridging resistance, IE
in this case to 8/10,000ths or by -62 db.

The circuit looks roughly like this:



Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3020. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: HOWARD BEHNER <hbehner@jasper.knox.net>
Message-ID: <Pine.LNX.3.91.960512140254.19259A-100000@jasper.knox.net>
Source record: 105448
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I can appreciate spending your own money on your internet connection,
but with an attitude like this person has I have a hard time believing
anything that comes from him. By the way, the stamp posting was the
most interesting thing I read in this newsgroup that day.

On Sat, 11 May 1996, Christer Johansson wrote:

> Hi,
>
> >Why are you posting this crap about stamps? It costs me money
> >to download news and I can't pick and choose. Who the Hell asked
> >you to do this?
>
> Received several of the above e-mail from a person who didn't like
> to give his name or e-mail address, he used an anonymous-remailer !
>
> However I would like to hear if others feel the same about L.O.S.A
> and if thats the case I will stop posting it.

3021. Re: HOW DO U CONNECT COAX TO QUAD????????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: johnoz@indy.net
Message-ID: <4n5efv$p44@news.indy.net>
Source record: 105449
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <Dr5x5r.12n@nsc.nsc.com>,
"Al Koblinski (W7XA)" <canksc@tevm2.nsc.com> wrote:
>I use a 1:1 balun for each loop (Bencher, but any brand is OK).
>Where needed I used a coax matching section to match.
>On 20mtr, my 3 el on 26' boom was 49 ohms so no matching was needed for
>50 ohm coax.
>Ditto for 5 el on 15 mtrs with same boom.
>10 meters, 5 elements came out to near 90 ohms impedence and I used a
>section of 75 ohm coax between the balun and the 50 ohm feedline.
>Each element is fed seperately through a switchbox.
>I have used a variety of other feed methods in the past, such as gamma
>matching (cumbersome) and found that the simple balun approach works
>great and is mechanically the most simple.
>73, Al
>
>Although I'm not into HF quad antennas I think that the feed system sold by
Cubex (http://www.cubex.com) offers another solution. They sell systems
suitable for 3 or 5 band quads having 2,3, or 4 elements. Price is $75 inc.
shipping.

John O. KB9MIE.

3022. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <4n596a$o31@tierra.santafe.edu>
Source record: 105450

Heat.

73 de K9GXC, Jim

3023. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: Ray Dennis <rayden@netins.net>
Message-ID: <31966D28.636A@netins.net>
Source record: 105451

Terry Fugate wrote:
>
> In article <4mt9mo$q5b@epx.cis.umn.edu>, rjg@itasca.stat.umn.edu (Robert J. Granvin)
says:
> >
> >OK. Dunno if this is the right place to start, but in any case, would
> >appreciate email as I tend to blow past a lot of news on the daily
> >lack of time. :-(
> >
> >In doing some WWII POW research I ran across some mention of very simple
> >shortwave or AM receivers that were being built in the barracks using
> >(mostly) accessible materials... Kindof a crude crystal set without the
> >crystal, centered, I guess, on a blue steel razor and a pencil lead.
> >
> >Haven't thought about it for a while until it came up in discussion
> >elsewhere which timed perfectly with a museum display being discussed
> >about POWs during WWII for this summer.
> >
> >I'm trying to track down information on these "homebuilt" radios and,
> >if lucky, find a plan to actually construct an operational one to add
> >into the display.
> >
> >It's kindof the other end of the scale from what traditional radios
> >are today, but hoping someone out there has what I'm looking for...
> >Or can point me in the right direction.
> >
> >Any info? Please email...
> >Thanks,
> >
> >/bob
> >
> >\\ Robert J. Granvin rjg@stat.umn.edu
> >// School of Statistics - University of Minnesota ICBM: 44.924 -93.212
> > http://www.stat.umn.edu/~rjg
> >Those who would sacrifice liberty for security deserve neither. -Ben Franklin
> Boy does this take me back. In the third grade, about 1960, a friend had
> an old Boys Life (the Boy Scouts of America Magazine). There was a
> artical on a crystal-less radio. It used a blued razor blade as the
> detector. We built two, using broomstick as the coil form, a 50' "long
> wire" and split a WWII headset. The head set had a pair of magnetic
> "cans", and I think they were about 2000ohms. Later dad order a crystal
> earphone (from Burnstien And Applebe <spelling?>). The crystal earphone
> worked much better than the magnetic earphone.
> I think the the blue blades where "blued" with selenium. And that is how

> the detector worked. We use Gillette (again spelling) blades, but I have
> not seen any "stand alone" razor blades in years (or really decades).
> I still have the crystal earpiece, and have built a crystal radio(with
> a torroid and using a "hot carrier" diode as the detector) But, I have
> often thought of the old blue razor blade radio. My wife and a few
> friends thought me "kind of touched" when I mentioned this method of
> detection. You can also build a liquid detector, but I have forgotten
> the chemicals/electrodes that we used. We use a bent saftey pin not a
> pencil. I suspect that during WWI(the period that they did this, I
> think) they used read lead. But I am not sure.
> Good luck

There is a story that has floated around here (Des Moines, Iowa area) that back a number of years ago, a local ham had an interesting experience with razor blade detection. It seems that he had just put his AM Kilowatt transmitter on the air and a neighbor complained about hearing the ham's voice in his toilet. The ham put his wife on the mike, went next door and sure enough, there was a voice coming out of the toilet bowl.

They pulled the stool and found a number of razor blades that had been thrown down the toilet. It would have been funny if the ham had used the old expression "you're splattering old man."

Ray Dennis W0DQ

3024. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <319664b0.66654192@news.santafe.edu>
Source record: 105452

Somehow this old message got reposted when I was setting up Agent 0.99
(which is a great program). I don't know why it did that. Sorry for
any incovenience.

Jim

jpotter@jpaw.com (Jim Potter) wrote:

>Heat.
>
>73 de K9GXC, Jim
>
>
>

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com/jpaw/

3025. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: Siegfried Rambaum <siram@light.lightlink.com>
Message-ID: <Pine.SUN.3.91.960512213916.177A-100000@light.lightlink.com>
Source record: 105453

On Thu, 9 May 1996, WB3U wrote:

>
> >Is clear nail polish (apparently composed of two kinds of acetate and
> >solvent) acceptable as coil dope?

NOPE ... The solvent is acetone, highly flammable and toxic

The thing you could do, however, is looking at your local library for some real olden radio builder's book. I was amazed, how old some of the stuff is, they have at my local library. In those real old books, you might find some recipes for what you need.

> adhere as well as an actual adhesive, and it tends to be brittle.

... cause it is not made for coils, but for fingernails

> you used enough so that it soaked into the coil, between the turns,
> neither of these characteristics is likely to cause a problem.

When you soak it, you might change the dielectricum and -- though unlikely to have much influence --- the coils might change in frequency response ...

3026. HF VFO's with chip capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: rohrwerk@netcom.com
Message-ID: <rohrwerk-1205961646020001@10.0.2.15>
Source record: 105454

I have had only "OK" success in VFO stability with the usual compact toroid (type 6, yellow) approach. A noticeable upward drift seemed unavoidable. A few breadboarded air-core VFO's did very well, but then putting them in a PC board box below a certain size degraded the stability.

On a whim once, I got an NP0 chip capacitor kit from DigiKey -- my surplus NP0 disk ceramics from various sources are often rather large, so I thought I'd try going to the other extreme :-).

An approximation of the "Optimized QRP Transceiver" Hartley VFO, at 7 MHz, with chip caps in the frequency determining stages, is now testing in the shack. The PC board (single sided) is attached directly to the capacitor stator pins, and right now only tack soldered to the box. Even without the toroid doped up and cemented down, I got about 200 Hz warmup drift (downward) for about 10 minutes, then about 40 Hz drift (down) over the next 1-1/2 hours. Better than I have had before! Whether this is attributed to the fact that they're chip caps, or whatever other combination of factors (different varactor diode characteristics, whatever), nice to get stability in this range.

In a stability thread a while back on this group and QRP-L, lots of folks reported different experiences with different circuits. Just thought I'd add more fuel to the flames.

: John Seboldt \ Duke Ellington on CW: It don't mean a thing
: rohrwerk@netcom.com | Ham: K0JD \ If it ain't got that swing!
: Minneapolis, MN USA | Music Dir., \ Didah, didah, didah, didah,
: Church of the Annunciation \ ....

3027. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-12 00:00:00 UTC
From: floydab@qnet.com
Message-ID: <4n57gn$ccc@mandolin.qnet.com>
Source record: 105455
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <31951b27.0@news.buller.se>, cj@hth.com says...
>
>Hi,
>
>>Why are you posting this crap about stamps? It costs me money
>>to download news and I can't pick and choose. Who the Hell asked
>>you to do this?
>
>Received several of the above e-mail from a person who didn't like
>to give his name or e-mail address, he used an anonymous-remailer !
>
>However I would like to hear if others feel the same about L.O.S.A
>and if thats the case I will stop posting it.
>
>I understand that not everyone is using the STAMP but I think many
>people enjoy reading what could be done and maybe get som hints or
>inspiration for applications of their own or am I wrong ?
>
>Regards,
>
>/Christer
>
>
I don't mind as long as you don't post the same hints, i rather enjoy them
--
Floyd of Fort Brown
Procrastination is my game

3028. Mods for HR-2600 Uniden Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: kj7az@coffey.com
Message-ID: <4n8649$1me@news.tcd.net>
Source record: 105379

Looking for mods for the Uniden HR-2600.

The pin's 34 and 35 are not tied on this model and 35 has two ground strips.

Also need dip switch setting for 100hz tone.

Thanks

Please reply by E-Mail

kj7az@coffey.com

Thanks Again

3029. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Albert Lee Mitchell <support@amresearch.com>
Message-ID: <3197B7C6.5477@amresearch.com>
Source record: 105380
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Christer Johansson wrote:
>
> Hi,
>
> >Why are you posting this crap about stamps? It costs me money
> >to download news and I can't pick and choose. Who the Hell asked
> >you to do this?
> Deleted text....
> I understand that not everyone is using the STAMP but I think many
> people enjoy reading what could be done and maybe get som hints or
> inspiration for applications of their own or am I wrong ?
>
> Regards,

I agree Christer, even those of us who don't use the Basic
Stamp are interested. And congratulations on your self-control. I
sometimes find it difficult to hold my tongue with the rude and
nasty whiners here.

Please post more, not less!

-- Regards, Albert

AM Research, the Embedded Control Experts. http://www.amresearch.com
---

3030. *Really* low noise-figure preamp designs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4n8f8v$ma7@peabody.colorado.edu>
Source record: 105381

I recall mention of high-power GaAsFETs being used to win the noise-figure contests (held at VHF/UHF get-togethers) with NFs around 0.2-0.25 dB, well below the typical 0.6 dB stated for the GaAsFET preamps in the ARRL Handbook's VHF projects section. Are the former capable of low-IMD in high-signal areas? If so, are there published circuits (and part numbers) for the ultralow noise preamps?

For starters, I'm interested in 6m and 2m.

By chance, does anyone from the W2SZ/1 camp care to shed some light on the high-performance preamps they use (if any)?

Bruce
N6URH

3031. PL tone decoder schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: god@netaxs.com
Message-ID: <4n8etj$sbd@netaxs.com>
Source record: 105382

does anyone have any schematics for a PL tone decoder?
I want to integrate one into a DTMF decoder I'm building.

thanks
-Bill

____
http://www.netaxs.com/~god
CEO and chief Diety
Cracked Bell Communications

3032. Hamfests... S.E. Pa. Area...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: MattZ@pond.com
Message-ID: <4n8fjl$8uc_001@vf.pond.com>
Source record: 105383

Can anyone help me Im tring to find a ham fest in the Philadelphia area... Ie
chester county montgomery ..Delaware area...

Thanks !
z

Warning---- These ideas or thoughts have been provided to you for entertainment uses
only....The use of these idea's can be dangerous if used improperly! Always use proper
safety precautions when handling these thoughts or ideas...The prior thoughts are
fictional in nature...Any event that may happen after use of such ideas or thoughts is
purely coincidental and the thoughts or ideas conveyed here by the author or anyone
consciously or unconsciously working with the author can not be held responsible or
irresponsible if said ideas are used or not used consciously or unconsciously..Due t
o a dearth of original ideas this disclaimer is required
Use Caution when using any of the prior ideas!

--- "One Hundred Million Volts", he declared "Were Perfectly practicable"
Nikola Tesla 1899

--- "Why does my Cat Lick my Toes? or for that matter why does it lick my leather shoes?"
MattZ 1996

3033. Seeking info on modulation xfmr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: dick@netcom.com
Message-ID: <dickDrD5uH.BCs@netcom.com>
Source record: 105384

I know it's a long shot: I have an old Inca modulation transformer
from about 1936 which I'm trying to use in a newly-built AM xmtr.

Does anyone happen to have a spec sheet on this item?

Modulation transformer made by Inca (Phelps-Dodge) model N30A.

thanks for reading and 73,

Dick Arnold, W5VEC
dick@netcom.com

3034. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: dsimpson@hsonline.net
Message-ID: <19960513.6821D170.1202B@mail.hsonline.net>
Source record: 105385
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <31951b27.0@news.buller.se> cj@hth.com (Christer Johansson) writes:
> Hi,
>
> >Why are you posting this crap about stamps? It costs me money
> >to download news and I can't pick and choose. Who the Hell asked
> >you to do this?
>
> Received several of the above e-mail from a person who didn't like
> to give his name or e-mail address, he used an anonymous-remailer !
>
> However I would like to hear if others feel the same about L.O.S.A
> and if thats the case I will stop posting it.
>
> I understand that not everyone is using the STAMP but I think many
> people enjoy reading what could be done and maybe get som hints or
> inspiration for applications of their own or am I wrong ?

Keep posting. I like hearing about what people are doing.

Also, I would ALWAYS ignore post from someone using a remailer.

```
_______________________________________
/ David Simpson \
| Amiga 1200, Basic Stamp, RPGs, War Games |
| dsimpson@hsonline.net |
\_______________________________________/
```

3035. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.135.0023F2BA@mindspring.com>
Source record: 105386

In article <4n70b7$2jr@nadine.teleport.com> w7el@teleport.com (Roy Lewallen) writes:
>I never have figured out how applying coil dope would improve a coil. The

1. AS others have pointed out, it is good for mechanical stability.
2. Most coil dope is very good at high voltage, as well. So if you
are generating lotsa volts in your coil/xfmr then it helps (only helps)
prevent arc-over between a lo voltage and a high voltage area on your
coil.
Regards,
Ed

3036. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Quentin Lewis <bigqueue@tiac.com>
Message-ID: <31980096.437F@tiac.com>
Source record: 105387
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Christer Johansson wrote:
>
> Hi,
>
> >Why are you posting this crap about stamps? It costs me money
> >to download news and I can't pick and choose. Who the Hell asked
> >you to do this?
>
> Received several of the above e-mail from a person who didn't like
> to give his name or e-mail address, he used an anonymous-remailer !
>

I happen to like the L.O.S.A. postings, and I think Basic Stamps (and all the various clones out there now) are a great way to control many smaller/slower projects. I think they are not only usefull, but encourage newcomers to some of these control areas (robotics and the like) to perhaps go further with home grown hardware and software.

But heck...the Stamp itself if VERY usefull in its own right!

> However I would like to hear if others feel the same about L.O.S.A
> and if thats the case I will stop posting it.
>

Consider this a vote FOR your efforts.

> I understand that not everyone is using the STAMP but I think many
> people enjoy reading what could be done and maybe get som hints or
> inspiration for applications of their own or am I wrong ?
>

Like the "Tony the Tiger" commercial....some find it hard to "admit" that they program in Basic and use Basic Stamps....but ask these same people if they could have done some of these jobs in an easier, less expensive, and quicker manner.....and often the answer is NO.

It is a great building block....its no speed demon, so it isn't for every application.....but then again an 32 Processor Sun SPARC server 2000 is FAST....but I don't think I'd automate my model railroad, or build a line following robot out of it either.

-Quentin

3037. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: floydab@qnet.com
Message-ID: <4n7pac$rq7@mandolin.qnet.com>
Source record: 105388
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <31951b27.0@news.buller.se>, cj@hth.com says...
>
>Hi,
>
>>Why are you posting this crap about stamps? It costs me money
>>to download news and I can't pick and choose. Who the Hell asked
>>you to do this?
>
>Received several of the above e-mail from a person who didn't like
>to give his name or e-mail address, he used an anonymous-remailer !
>
>However I would like to hear if others feel the same about L.O.S.A
>and if thats the case I will stop posting it.
>
>I understand that not everyone is using the STAMP but I think many
>people enjoy reading what could be done and maybe get som hints or
>inspiration for applications of their own or am I wrong ?
>
>Regards,
>
>/Christer
>
sounds like he needs to check at&t or some other provider if he is in the
US, no reason to pay by message in this day and age!!
--
Floyd of Fort Brown
Procrastination is my game

3038. TS-32 PL Decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: ecloud@goodnet.COM
Message-ID: <199605131727.KAA06790@goodguy.goodnet.com>
Source record: 105389

> Does anyone have the address for "Communication
> Specialists", or know the pricetag for their TS-32 PL
> Decoder?

Go to my web page, click on the "Ham radio" icon, and you will find instructions for one of their PL decoders. (I can never find the paper version when I need it so I thought I'd make it handy.) Their address is in there too. I believe it listed the price as around $100, but I have a hard time believing they actually get that kind of money for that tiny little board :-). You can find them at hamfests for $20 or less. Now, I'm not sure what the TS-32 is, mine is a different model; but mine is the one that has dip switches to set the PL, it's a little postage stamp sized board, and has only 3 wires to hook up (power, ground and the output signal).

--
_______ KB7PWD @ KC7Y.AZ.US.NOAM ecloud@goodnet.com
(_ | |_) Shawn T. Rutledge on the web: http://www.goodnet.com/~ecloud
__) | | ____
* sci fi * eschew obfuscation * TCP/IP packet * cyberspace * OO * Interpedia *

3039. Specs wanted for various parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <3197697E.3140@vertex.ucls.uchicago.edu>
Source record: 105390

Hi all,
Due to my stupidity, I have a bunch of some various electronic parts sitting around that I don't have specs for. If anyone can send me (by any medium, see below) pinouts, or better yet full specs, for any of these, I would be overjoyed. Thanks much.

LM741 op amp
LM1496 multiplier
NE564 pll
NE592 vid. amp
ZN414Z am radio rec. ???
MPF102 JFET
2N3866 xsistor
2N918 xsistor

Isaac Kohn
5121 South Ellis Avenue
Apt. 2
Chicago, Illinois 60615

FONE: (312) 947-0349
EMAIL: ikohn@vertex.ucls.uchicago.edu
FAX: (312) 752-0500

3040. WEATHER PICS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Piers Rochford <piers@sling.demon.co.uk>
Message-ID: <89604235wnr@sling.demon.co.uk>
Source record: 105456

--
A plea for assistance:

Does anybody know of any way to recieve the moving (tv) pictures
from the weather satalites. I do not know which satalite this is
broadcast from but I do know that the CNN news network from the USA
use this display for their weather forcasts.

Is it beyond the means of the average listener/viewer or can
ex commercial equipment or home build stuff be used??????????

Thanks in advance :-)

Piers.

---

piers@sling.demon.co.uk

3041. QRP power AM modulator/transmitter diagram in a.b.pictures.misc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDrBHuK.Iy7@netcom.com>
Source record: 105457
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.broadcast,rec.antiques.radio+phono

I built and drew up a schematic diagram of a simple AM modulator. Basically a class C RF amp modulator. In this particular case, I wanted a "part 15" AM modulator to play old music on old tube AM radios. I used a crystal oscillator module (I had 10MHz handy), and used a 74LS153 counter/divider chip to get a frequency of 1250 KHz (which has no local station around here). I then used an "open collector" gate to "chop" a source of audio, in this case, an emitter follower. This chopping action (as long as the audio doesn't hit the supply rails is equivalent to a Class C RF amp being AM modulated by a variable supply voltage, variating at the audio rate. I made no attempt to remove the harmonics from the RF being a square wave, I figure that the strength of these are too low to much worry about. The main carrier is less than 20 mW anyway. Use a piece of wire about 9 feet long as an antenna.

Change the frequency xtal osc and/or divide ratio for other frequencies.

Find the diagram as a JPG image file in the newsgroup alt.binaries.pictures.misc

3042. Re: Seattle Quake Story At Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4n6308$jg0@news.accessone.com>
Source record: 105458
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave,sci.electronics,rec.radio.pirates

In article <318E8CC6.4CCD@indirect.com>, johnk@indirect.com says...
>
>Don Skidmore wrote:
>>
>> Zachary Babayco wrote:
>> >
>> > In article <4mia6i$4m0@alpha.sky.net> george@sky.net (George) writes:
>> >
>> > >vbook@vbook.com (Ed Mitchell) wrote:
>> > >
>> > >>The 5.4 Seattle earthquake knocked out telephone and cellular
communications
>> > >>systems, probably due to excessive call attempts. Amateur radio ARES and
RACES
>> > >>nets went into operation immediately following the earthqauke.
>> > >
>> > >Why.They were not needed at that time.No one was killed.No phone lines
>> > >were down.Government radio was working just fine.
>> > >SO why?????
>> > >
>> >
>> > Didn't you read *any* of his message? He said that the quake *KNOCKED
>> > OUT TELEPHONE AND CELLUAR PHONES*. Govt. radio would have been just a
tad
>> > overloaded at the time, so they probably needed and welcomed the help of
>> > ARES and RACES. Also, you said that 'nobody was killed.' With
>> > communications down, HOW WERE THEY SUPPOSED TO KNOW THAT???
>> >
>> > --
>> > zachb@netcom.com
>> > zachb@odyline.com
>>
>> Well--
>> I was there. There were a few isolated outages for a short period, and some
>> delayed dial tones (People calling each other to ask "What was that?!". I
turned
>> on my monitor--it was actually relatively quiet.
>>
>> I'm really glad hams are available to help. They perform extremely valuable
>> services during emergencies. This one was more in the nature of one hell
>> of a wake-up call rather than a catastrophe (except for a small number of
>> folks who did have serious damage).

>>
>> I thought the account was a bit overblown under the circumstances.
>>
>> Just my $.02
>>
>> Don
>> Bellevue, WA
>
>
>I second the motion. HAMS have always performed valuable services
>during emergencies.
>
>One the most key elements of recovery from almost any disaster is
>communications. The HAMs perform a service like that of small
>independent businesses and agencies do in our market driven economy when
>the big government agencies fall flat on their behinds.
>
>My $.02
>
>John E. Kuslich
>
>

Guess I will follow up to everyone here.

Depending on where you lived, landline and cellular phone calls could not be placed for one to two hours after the earthquake occurred. As I noted accurately in the online story, this occurred because of system overload. The story is very straightforward, points out that only minor (or moderate if you lived near the epicenter) damage occurred and does not overly dramatize the situation.

If you are suffering a medical emergency during a phone outage, you don't care if the phone is out because of overload or breakage - bottom line is you can't call for help. I, in fact, suffered a medical emergency earlier in the day that the earthquake occurred and was very much aware of the importance of having an operating communications link. Incidently, the next day, a heart attack occurred two blocks from my house (which sadly, ultimately proved fatal)? Who are you going to call when an emergency striks and your phone doesn't work?

The point here is that when the phones are out, the lifeline that people expect to use is not available. If you DO NOT have an emergency, then use of the phone does not matter to you. If you have an emergency, then it matters a big deal. Other disaster situations where phone service has gone out have shown that residents will attempt to drive to the nearest source of aid - typically a local fire station or police subdivision. Unfortunately, they didn't have communications either during this phone overload outage situation.

The local ARES/RACES plan is currently being modified to provide backup communications support at the site of ocal government agencies (e.g. fire stations) during telephone outages. Even though there was no "major emergency" and no one died - the point remains - a hell of lot of people could not have

called for assistance if they had needed to. That is the kind of communications outage for which ARES/RACES should be providing solutions.

This quake is yet another reminder to have the proper plans in effect *before* someone gets injured or dies. The story seems useful to others who are also designing emergency prepardness plans.

Incidently, since a few readers don't get it: Ham Radio Online is a hobby - it is free to you, self-funded, no advertising. Its an online ham resource. Some people build repeaters for other's to use - we decided to build an online ham radio resource instead.

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

3043. DPM REQUIRES isolated voltage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: mac@cis.ksu.edu
Message-ID: <mac.831953534@zaurak.cis.ksu.edu.cis.ksu.edu>
Source record: 105459

I recently purchased two of the little 199.9 mv full-scale 3-1/2 LCD
digital panel meter modules that sell for $10 each and was surprised to
learn that they can NOT measure the same voltage which powers them--in
other words, they MUST have an "isolated" power-supply voltage. Of course,
I can always use a 9-volt "transistor" battery, but I wanted to used them
to monitor emergency (battery) power supplies, and needing another battery
is "the pits"!

Any suggestion(s)? Did I purchase the wrong module? (I received "PM-128"
from an unknown manufacturer.)

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE; Associate Professor (913) 532-6350 work 532-7353 fax 539-4448 home
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3044. weather pics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Piers Rochford <piers@sling.demon.co.uk>
Message-ID: <586444992wnr@sling.demon.co.uk>
Source record: 105460

-- A plea for assistance:

Does anybody know of any way to recieve the moving (tv) pictures
from the weather satalites. I do not know which satalite this is
broadcast from but I do know that the CNN news network from the USA
use this display for their weather forcasts.

Is it beyond the means of the average listener/viewer or can
ex commercial equipment or home build stuff be used??????????

Thanks in advance :-)

Piers.

---

piers@sling.demon.co.uk

3045. RF Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: maxf@msn.com
Message-ID: <00001fee+000017aa@msn.com>
Source record: 105461

The filter software can be found at;

http://members.aol.com/maxfro/private/tunkit2.html

sorry about posting the wrong URL earlier.

3046. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: fbg@iinet.net.au
Message-ID: <fbg-1305961358470001@203.10.1.43>
Source record: 105462
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

> I understand that not everyone is using the STAMP but I think many
> people enjoy reading what could be done and maybe get som hints or
> inspiration for applications of their own or am I wrong ?

I thought it was really quite groovy, and was actually the sort of thing I would like to see more of on the group. For we folk who are toying around with the field, applications of generic parts are very enlightening.

Keep up the good work.

3047. surplus stores in Boston, Philadelphia????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4n6psa$r1k@newsbf02.news.aol.com>
Source record: 105463

I will be in Boston and Philadelphia in the next few weeks- can anyone post the addresses or phone #'s of any surplus stores (you know, we homebrewers need `em!) in those areas?

I will reciprocate by sending a copy of the NY State surplus store list I have compiled.

TNX!
Tom,
VE3IEY FN14sf

3048. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Bill Meara <w.meara@codetel.net.do>
Message-ID: <4n71po$c69@server2.codetel.net.do>
Source record: 105464

For all you razor blade radio fans:

Antique Electronic Supply (6221 S. Maple AVE, TEMPE Arizona 85283 FAX: 602-820-4643) actually has a "WWII Foxhole Radio Kit"

"Build an AM reciever using only a razor blade, pencil lead coil and earphone." $10.95 Check it out

73 Bill N2CQR/HI8

3049. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4n70b7$2jr@nadine.teleport.com>
Source record: 105465

In article <Pine.SUN.3.91.960512213916.177A-100000@light.lightlink.com>,
Siegfried Rambaum <siram@light.lightlink.com> wrote:
>On Thu, 9 May 1996, WB3U wrote:
>
>>
>> >Is clear nail polish (apparently composed of two kinds of acetate and
>> >solvent) acceptable as coil dope?
>
>NOPE ... The solvent is acetone, highly flammable and toxic
>
>The thing you could do, however, is looking at your local library for
>some real olden radio builder's book. I was amazed, how old some of the
>stuff is, they have at my local library. In those real old books, you
>might find some recipes for what you need.
>. . .

Coil dope is typically made by dissolving polystyrene in acetone, so "real"
coil dope is also highly flammable and toxic until it dries. You can make
it yourself quite easily with styrofoam and acetone from the paint store,
but do handle it and the acetone carefully. As Siegfried said, it's very
flammable.

I never have figured out how applying coil dope would improve a coil. The
best quality dope will degrade the Q by decreasing the apparent inductance
due to increased capacitance. Many other materials used for dope will
introduce loss as well. Maybe someone could enlighten me.

Roy Lewallen, W7EL

3050. Re: HF VFO's with chip capacitors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4n6vqm$2jr@nadine.teleport.com>
Source record: 105466

In article <rohrwerk-1205961646020001@10.0.2.15>,
rohrwerk@netcom.com (John Seboldt) wrote:

>. . .
>An approximation of the "Optimized QRP Transceiver" Hartley VFO, at 7 MHz,
>with chip caps in the frequency determining stages, is now testing in the
>shack. The PC board (single sided) is attached directly to the capacitor
>stator pins, and right now only tack soldered to the box. Even without
>the toroid doped up and cemented down, I got about 200 Hz warmup drift
>(downward) for about 10 minutes, then about 40 Hz drift (down) over the
>next 1-1/2 hours. Better than I have had before! Whether this is
>attributed to the fact that they're chip caps, or whatever other
>combination of factors (different varactor diode characteristics,
>whatever), nice to get stability in this range.
>. . .

I've built quite a few of these oscillators, and 100-200 Hz warmup drift is typical, quite repeatable, and due primarily to the inductor, when NPO capacitors are used. A systematic way of compensating the inductor drift by replacing part of the capacitance with temperature-compensating units was discussed in an article by Wes Hayward a few years ago in QST.

I've heard reports that greater drift than a couple of hundred Hz was traced to poor quality NPO capacitors, and replacing them with good quality ones cured it.

Roy Lewallen, W7EL

3051. Re: grid driving 4cx1600

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3196ebbd.101231725@news.santafe.edu>
Source record: 105467

ellope@shasta.com (jerry) wrote:

>I am thinking of building an HF amp. useing a 4cx1600B. The manufacture of the
>tube recemends grid driving whith a 50 ohm resistor. I have never built a grid
>driven amp of this type and was woundering if there is someone out there that
>might be able to give me some feedback on this.

The object is to lower the grid impedance so that any capacitive
feedback from the anode is attenuated enough to prevent oscillation.
If the tube is run class AB1 (no grid current) the drive power is
dissipated in the grid resistor. The required drive power is whatever
it takes to get the desired grid voltage swing.

This also removes the necessity of having to tune a grid tank -
assuming the driver puts a reasonable rf sine wave into a resistive
load.

It should work fine.

I don't recall the parameters of the 4CX1600B, but I've looked at its
UHF cousin (4CX1600U) for use as a 1500 W amplifier at 1296. It looks
like a great tube.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com/jpaw/

3052. PACKET RECEIVE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Piers Rochford <piers@sling.demon.co.uk>
Message-ID: <826066571wnr@sling.demon.co.uk>
Source record: 105468

--
I have a second computer don't laugh 8086!

Is there any packet receive software I can download from somewhere
which will run on this machine. I do not want to go and buy an
expense TNC so is there any sort of interface able to be build by
the homebrew user - such as that available for the HAMCOMM package.

Thanks.
Piers

---

piers@sling.demon.co.uk

3053. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: billsohl@planet.net
Message-ID: <4n7a71$luo@jupiter.planet.net>
Source record: 105469
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

>cj@hth.com (Christer Johansson) wrote
>>>Why are you posting this crap about stamps? It costs me money
>>>to download news and I can't pick and choose. Who the Hell asked
>>>you to do this?

>>Received several of the above e-mail from a person who didn't like
>>to give his name or e-mail address, he used an anonymous-remailer !

Chris,

This is the nternet. It isn't your responsibility to be concerned
because some people have access that costs them more money
for more news. Post as you see fit.

Bill Sohl (Amateur Radio Operator K2UNK)
Internet Instructor, Mount Olive (NJ) Community School

3054. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4n7e1a$15h4@newsgate.sps.mot.com>
Source record: 105470

w7el@teleport.com (Roy Lewallen) wrote:

>I never have figured out how applying coil dope would improve a coil.

The only purposes I've been able to figure out are that it keeps the windings from moving (if touched, or from microphonics), and it seals the coil and form from humidity in the air. You WILL see a change in inductance if your cardboard coil form is sopping wet, has fungus growing on it, and the powdered-iron slug has gotten rusty....

I haven't measured a change in perfornamce by adding coil dope (and I have used a wide variety of glues, besides nail polish), but I've seen significant degradation caused by damage to an unprotected coil. As in, "Oops, I didn't mean to cut through that 30-ga wire winding..."

Jim N6OTQ

3055. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: gray@news.humberc.on.ca
Message-ID: <4n7d93$lf0@dns.humberc.on.ca>
Source record: 105471

Roy Lewallen (w7el@teleport.com) wrote:

: I never have figured out how applying coil dope would improve a coil. The
: best quality dope will degrade the Q by decreasing the apparent inductance
: due to increased capacitance. Many other materials used for dope will
: introduce loss as well. Maybe someone could enlighten me.

As near as I can figure, the only advantage of coil dope is that it mechanically secures the turns of wire. Without the dope, it is possible for the wire in a loosely wound coil to shift, changing the coil inductance.

This is probably best prevented by winding the coil turns as tightly as possible, and as neatly as possible, thus making it difficult for any movement of the wire. If the coil is wound with small diameter wire, a drop or two of adhesive securing the ends of the coil is probably a good idea.

<o_o>
Kelly Gray ve3vgp@ve3inf.#scon.on.ca (packet)
gray@acad.humberc.on.ca (internet)

3056. Re: grid driving 4cx1600

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4n7f6o$1io@newsbf02.news.aol.com>
Source record: 105472

Hi Jerry,

We were talking about this briefly in another thread.

In article <ellope.39.0015D5B0@shasta.com>, ellope@shasta.com (jerry)
writes:

>
>I am thinking of building an HF amp. useing a 4cx1600B. The manufacture
of
>the
>tube recemends grid driving whith a 50 ohm resistor. I have never built a
>grid
>driven amp of this type and was woundering if there is someone out there
that
>
>might be able to give me some feedback on this.
>

On the grid resistor, the **peak** grid-cathode RF voltage can not be allowed to exceed the bias voltage in AB1. This "rule" requires a grid-cathode resistance of around 18 ohms for 90 watts of drive and 56 volts bias. The correct AB1 formula for a simple shunt grid resistance is:

R=Eg^2 / 2Pdrv

Where Eg is the bias voltage and Pdrv is the peak power available at the grid.

A 50 ohm L pad can be calculated using ohm's law: .707bias / sqrt(p/50) = Rgrid. The input series R would of course be: 50 - Rgrid = Rs

With 90 watts and 56 volts of bias, 30 ohms of grid-cathode shunt resistance fed by a series 20 ohm resistor would provide both proper grid resistance and exciter loading.

In many cases, a simple 50 ohm resistor will create problems. The problems are:

1.) Most exciter power control and ALC circuits allow considerable overshoot at reduced power settings, and some overshoot even when operated at rated power. This will cause splatter.

2.) Some or most modern exciters produce dirtier voice modulated SSB signals at reduced power.

3.) PA stability may be reduced from improperly high swamping resistor values.

Be sure to consider these "side effects" when using grid driven tetrode circuits:

1.) A well regulated, protected, and metered screen supply is necessary.

2.) Proper bypassing of the tube is more difficult than with a triode.

3.) Distortion and splatter increases rapidly with the slightest amount of mistuning or excessive drive. It is impossible to accurately monitor proper drive and loading on voice with conventional metering systems.

4.) Layout is generally more critical.

The tube is much less expensive than a comparable high mu triode designed for SSB or GG service, but this is offset somewhat (if not completely) by added circuit complexity. The main concern is the operating and design difficulties. I would suggest reading as many tetrode design articles as you could before deciding on the exact design you want to choose. There are some very well written technical articles published many years ago when tetrodes were more popular that are worth looking at before starting your project.

73 Tom

3057. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4n7f9s$700@service2.uky.edu>
Source record: 105473

In article <4n70b7$2jr@nadine.teleport.com>, w7el@teleport.com (Roy Lewallen) says:
>
>In article <Pine.SUN.3.91.960512213916.177A-100000@light.lightlink.com>,
> Siegfried Rambaum <siram@light.lightlink.com> wrote:
>>On Thu, 9 May 1996, WB3U wrote:
>>
>>>
>>> >Is clear nail polish (apparently composed of two kinds of acetate and
>>> >solvent) acceptable as coil dope?
>>
>>NOPE ... The solvent is acetone, highly flammable and toxic
>>
>>The thing you could do, however, is looking at your local library for
>>some real olden radio builder's book. I was amazed, how old some of the
>>stuff is, they have at my local library. In those real old books, you
>>might find some recipes for what you need.
>>. . .
>
>Coil dope is typically made by dissolving polystyrene in acetone, so "real"
>coil dope is also highly flammable and toxic until it dries. You can make
>it yourself quite easily with styrofoam and acetone from the paint store,
>but do handle it and the acetone carefully. As Siegfried said, it's very
>flammable.
>
>I never have figured out how applying coil dope would improve a coil. The
>best quality dope will degrade the Q by decreasing the apparent inductance
>due to increased capacitance. Many other materials used for dope will
>introduce loss as well. Maybe someone could enlighten me.
>
>Roy Lewallen, W7EL
I do not think that the "dope" is to improve any quality of the coil,
but, instead, just to hold the wires in place. If the wires are not
"fixxed" then the L can varry, especialy with any sort of mechanical
shock or vibration. The dope could also keep water off the wires.
I had some dew ruin a nice home made vfo when the litz wire got wet.

3058. Re: DPM REQUIRES isolated voltage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4n7f0t$700@service2.uky.edu>
Source record: 105474

In article <mac.831953534@zaurak.cis.ksu.edu.cis.ksu.edu>, mac@cis.ksu.edu (Myron A. Calhoun) says:
>
>I recently purchased two of the little 199.9 mv full-scale 3-1/2 LCD
>digital panel meter modules that sell for $10 each and was surprised to
>learn that they can NOT measure the same voltage which powers them--in
>other words, they MUST have an "isolated" power-supply voltage. Of course,
>I can always use a 9-volt "transistor" battery, but I wanted to used them
>to monitor emergency (battery) power supplies, and needing another battery
>is "the pits"!
>
>Any suggestion(s)? Did I purchase the wrong module? (I received "PM-128"
>from an unknown manufacturer.)
>
>--Myron.
>--
>## Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
>## PhD EE; Associate Professor (913) 532-6350 work 532-7353 fax 539-4448 home
>## NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)
If the meter modules can share the power ground with the signal ground,
just use a 555, in the astable mode, followed by a diode to generate an
isolated volatage. If the power ground and signal ground have to isolated,
use a 555 to drive a transformer, and rectify the output of that. For
a general idea, check out the ARRL handbook and look at their nicad
carger that boasts the 12v from and automobile. They use a 555 driving
a "totem pole" transistor output, followed by a voltage doubler, to get
+24(or so)V. Drop the voltage doubler and either rectify or couple to
a transformer,...well you get the idea. It is a bit of a hassle, but
worth the effort.
Good luck and fun monitoring

3059. Re: Audio input/output

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4n6m98$ag4@news.calweb.com>
Source record: 105475

kmiller@flash.net (Kerry Miller) wrote:
>bkollar@maui.netwave.net (Brett Kollar) wrote:
>
>>I would like to send the output from two different audio sources to
>>the same input device. My consern is "back-feeding" one of the other
>>output devices and I am looking for an easy way to prevent this. The
>>crude drawing below explains what I am really trying to say...
>
>Brett,
> Diodes won't do what you want since audio is basically "fast
>a.c." The way I usually do it is a quick and dirty audio mixer using
>op-amps. I think Rat Shack has one of their little "Engineering
>Notebooks" with the schematic and instructions for it. You can use as
>many as you want to make more inputs.
>73,
>Kerry Miller
>WD5ABC
>
If you can't or don't want to power the OP amps you can build a
transformer type hybrid to do the same job. It will have a loss
of 3 dB. I can't quote the connections with out looking them up.

Bill K7NOM

3060. Re: DPM REQUIRES isolated voltage?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4n7kp4$ct6@solaris.cc.vt.edu>
Source record: 105476

In article <mac.831953534@zaurak.cis.ksu.edu.cis.ksu.edu>,
mac@cis.ksu.edu (Myron A. Calhoun) wrote:
>I recently purchased two of the little 199.9 mv full-scale 3-1/2 LCD
>digital panel meter modules that sell for $10 each and was surprised to
>learn that they can NOT measure the same voltage which powers them--in
>other words, they MUST have an "isolated" power-supply voltage. Of
course,
>I can always use a 9-volt "transistor" battery, but I wanted to used them
>to monitor emergency (battery) power supplies, and needing another battery
>is "the pits"!
>
>Any suggestion(s)? Did I purchase the wrong module? (I received "PM-128"
>from an unknown manufacturer.)

The specification to look for is "common mode input voltage". Assuming they have a differential input (in+ and in- terminals), there is a limit on what voltage can exist between the two inputs and the power supply (the meter reads the difference between the two, but it will malfunction if the absolute voltage on either is out of the common mode range). Most likely, the in- (or maybe in+) terminal is connected by a low impedance to the power supply, either minus supply, plus supply, or halfway inbetween.

The way to find that would be to short the inputs together, supply power and measure the voltage between the inputs and the supply with another meter. Check which pin, if either, tries to sink or source current. Then set things up so that the common mode voltage at the inputs is the same as it's natural value. The resistor divider that scales the 12V (or whatever) battery to less than 200 mV can be connected in various ways so the common-mode input voltage is correct.

-Mike KD4QDM

>
>--Myron.

3061. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4n7vkm$8o7@crash.microserve.net>
Source record: 105477

I recently wound a plate choke for a linear amplifier using 26 gauge magnet wire on a ceramic form. After it was wound, I gradually removed turns from one end so that the internal series resonances of the choke didn't fall on any of the ham bands. The choke ended up with resonances at about 26.5 MHz, 33 MHz, and several others above that frequency. The highest I measured (with a GDO) was about 120 MHz.

When the adjustment was complete, I secured the loose end of the coil with a dab of superglue, then I dipped the whole coil in polyurethane varnish. After the varnish dried, I went back and checked all the resonances again. If anything had changed as a result of the varnish, it wasn't detectable by any means I had available.

For the ultimate in protection, a coil like this could also be soaked or "painted" with polyester resin or epoxy. Both of these are used as the base in fiberglass, so the effect on Q should be minimal.

73,
Jack WB3U

3062. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-13 00:00:00 UTC
From: rst-engr@oro.net
Message-ID: <4n85dq$l2s@hg.oro.net>
Source record: 105478

jpotter@jpaw.com (Jim Potter) shared the following priceless pearls of wisdom:

>Heat.

I've gotten some good results by spraying a full wet coat of enamel onto the surface to be wrinkled, letting it dry to tacky, then spraying a thin coat of the same color lacquer over the enamel. Sit it in the sun for an hour and it will wrinkle. Evidently the solvents used for one attack the other.

Jim

Jim Weir VP Engineering | You bet your sweet patootie I speak for the
RST Engineering | company. If I don't, ain't nobody gonna.
Grass Valley CA 95945 |
http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic

3063. BIG Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: Chuck Bland <BlandRanch@postoffice.worldnet.att.net>
Message-ID: <4n8q5a$qsh@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105391

I am building a 450 ohm, non-inductive dummy load. I found what appears to be a surplus load. It have 4 black "tubes"; 2 each in parallel with the two pairs in series. Looks like it is close to what I am looking for.

I want to know if the resistors are non-inductive. Again, they are black tubes, about 2 inches in diameter and over 14 inches long. There are some markings. They are:

Carborudum Co.
892 SP451K
450 Ohms P/M 10%
750 Watts

Anyone have any clues about these BIG resistors?

Chuck Bland - n6dbt
Sacto, CA

3064. Re: *Really* low noise-figure preamp designs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: hansen@ee.ucla.edu
Message-ID: <DrDKxL.H32@seas.ucla.edu>
Source record: 105392

TIEMANN BRUCE (tiemann@spot.Colorado.EDU) wrote:

: By chance, does anyone from the W2SZ/1 camp care to shed some light on
: the high-performance preamps they use (if any)?

: Bruce
: N6URH

I was involved with W2SZ/1 back in the late 80s - early 90s. During
contests, 2 meters was too crowded for preamps most of the time.
The receiver we used needed high dynamic range, not low noise.
I'm not sure about 6m, but I would expect the same was true.
Maybe one of the current Zed crew could comment more on this.

Chris Hansen, KQ6DW (formerly KA2WRG)

3065. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4n901j$q8k@nadine.teleport.com>
Source record: 105393

In article <4n7vkm$8o7@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) wrote:

>. . .
>For the ultimate in protection, a coil like this could also be soaked
>or "painted" with polyester resin or epoxy. Both of these are used as
>the base in fiberglass, so the effect on Q should be minimal.

Years ago I tried coating a toroid coil (wound on type 6 powdered iron, of Q about 250 as I recall) with various materials and measuring the change in Q. I don't have the notes any more but recall that all but a few materials noticeably degraded the Q, some badly. Ordinary epoxy glue, as I remember, significantly reduced the Q. I wouldn't expect this to present a problem with an RF choke. But I wouldn't use it for coils intended for an oscillator tank, filter with high loaded Q, or other application where Q is critical.

Roy Lewallen, W7EL

3066. ** FLEA at MIT ** Sunday 19 May Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: w1gsl@athena.mit.edu
Message-ID: <4n9qmn$3pc@senator-bedfellow.MIT.EDU>
Source record: 105394
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics.misc,ne.forsale,ne.general,rec.radio.amateur.homebrew

We have a new larger lot just 4 blocks West of our old location...

********* $1 buyers discount with hardcopy of this notice ********

COMPUTERS - ELECTRONICS - HAM RADIO - COMPUTERS - ELECTRONICS - HAM RADIO

FLEA all SUMMER at MIT
May 19th, 1995
9AM-2PM

Come to the city for a great flea - plenty of free parking.

MIT's electronics and ham radio flea will take
place on the third Sunday of each month this summer,
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There is tailgate space for over 400 sellers and
free, off-street buyers parking!

Buyers admission is $4 (you get $1 off if
you're lucky enough to have a copy of our ad)
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The flea will be held at the corner of Pacific and
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Albany St near Central Square from 9AM to 2PM,
with sellers set-up time starting at 7AM.

!! RAIN or SHINE !!

Talk-in: 146.52 and W1XM/R-449.725/444.725 (PL 114.8/2A).

Sponsors: MIT Electronics Research Society
MIT UHF Repeater Association (W1XM)
MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

For more info / advanced reservations 617 253 3776

********** $1 buyers discount with hard copy of this notice ***********

****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

3067. Re: BIG Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: bduxbury@zetnet.co.uk
Message-ID: <4n9uht$ln6@roch.zetnet.co.uk>
Source record: 105395

In message <4n8q5a$qsh@mtinsc01-mgt.ops.worldnet.att.net>
Chuck Bland <BlandRanch@postoffice.worldnet.att.net> writes:

> I am building a 450 ohm, non-inductive dummy load. I found what appears
> to be a surplus load. It have 4 black "tubes"; 2 each in parallel with
> the two pairs in series. Looks like it is close to what I am looking for.

Chuck, They are almost certainly non-inductive, especially if you can
see no trace od a winding under the black finish.

73 de G4GAH

--
Barry Duxbury
bduxbury@zetnet.co.uk
100031.2223@compuserve

3068. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: dwjurkat@rodan.syr.edu
Message-ID: <4na2od$m1p@newstand.syr.edu>
Source record: 105396
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

The Stamp Faq is done very well and I like to see it here every month.
Perhaps Mr/Ms Anonymous should quit playing with the anonymous servers
and find a real ISP and get rid of that 300 baud modem. Netscape is
pretty slick these days. :-0
Alternatively LOSA can be reduced to a one page summary with just the
http or ftp pointers and maybe an automated email return mailer (like
archie).

The main reason I like to see this faq is because with a Stamp a
person new to electronics can actually be up and running in a couple
of hours and that includes putting all the parts together on a
breadboard.
My stamp I works fine with my 8-bit PC running Dos 3.x and I had
a simple test program running inside 10 minutes. Most of the commands
are rather simple to use and it's a great way to get into building robots.
(I think this applies to most of the other newsgroups listed in this
post's header.)

Also I would like to thank Christer and others like him for their
time and effort in providing these faqs for the rest of us. It sure
helps us a great deal with our hobby or work projects. Thanks!

dj

In article <31951b27.0@news.buller.se> cj@hth.com writes:
>Hi,
>
>>Why are you posting this crap about stamps? It costs me money
>>to download news and I can't pick and choose. Who the Hell asked
>>you to do this?
>
>Received several of the above e-mail from a person who didn't like
>to give his name or e-mail address, he used an anonymous-remailer !
>
>However I would like to hear if others feel the same about L.O.S.A
>and if thats the case I will stop posting it.
>
>I understand that not everyone is using the STAMP but I think many
>people enjoy reading what could be done and maybe get som hints or
>inspiration for applications of their own or am I wrong ?
>
>Regards,
>
>/Christer

>
>-=-
> * High Tech Horizon - Christer Johansson - E-mail: cj@hth.com *
>-=-
> * Vi saljer Parallax, Inc. BASIC Stamp's produkter i Skandinavien *
> >> World Wide Web On-Line Catalog - http://www.hth.com <<
>-=-
>

3069. Re: PL tone decoder schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: rtw@fuwutai.att.com
Message-ID: <4na32k$heb@nntpa.cb.att.com>
Source record: 105397

```
In article <4n8etj$sbd@netaxs.com>, god@netaxs.com says...
>
>does anyone have any schematics for a PL tone decoder?
>I want to integrate one into a DTMF decoder I'm building.
>
>thanks
>-Bill
>
>_______________________________________
> http://www.netaxs.com/~god
> CEO and chief Diety
> Cracked Bell Communications
>---------------------------------------
```

Sorry, Bill, but there are already two "Bills" here in the United States who have reserved the title of "God" for themselves.

3070. Re: WEATHER PICS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4n9tt8$5r9@service2.uky.edu>
Source record: 105398

In article <89604235wnr@sling.demon.co.uk>, Piers Rochford <piers@sling.demon.co.uk> says:
>
>
>--
>A plea for assistance:
>
> Does anybody know of any way to recieve the moving (tv) pictures
>from the weather satalites. I do not know which satalite this is
>broadcast from but I do know that the CNN news network from the USA
>use this display for their weather forcasts.
>
> Is it beyond the means of the average listener/viewer or can
>ex commercial equipment or home build stuff be used??????????
>
>Thanks in advance :-)
>
>Piers.
>
> ____
>
> piers@sling.demon.co.uk
> ____
>
>
This probably really belongs in rec.radio.amateur.space (or sci.sat or
whatever). I will keep this real short. Contact the ARRL and get
Dr. Ralph Tagerts 3rd edition of his wx sat handbook. Go to the
amsat ftp site and grab JVFAX 7.0 (7.0 and 7.1 are both on the net,
7.0 supports GIF images, 7.1 supports TGA(Targa), I prefer gif's).
You will need a vhf receiver(I use a Radio Shack Pro2004) and an outside
antenna. A special antenna, with a preamp will give the best results,
but you can use a diskcone. The receiver must at least have a wide band
width mode, Ideally you need a receiver with 45/50KHz BW, but 75KHz(the
wide mode on the Pro2004/5/6) will work. Hamtronics makes a dedicated
reciever. If you are going the JVFAX route, you can use the "simplest"
decoder(a self powered opamp demodulator) with the Exar2201 "front end".
A wesat image is an AM signal on a FM carrier and you will need the
exar circuit to convert the AM signal into an FM signal. I know that
this is confussing, but it will work.
If you have a soundblaster, the funet (in Finland) has two programs(Channel
and demo-ftv(this demo will not save but will display, it only cost
$10 to regester ftv and is well owrth it!) that "decode" the audio and
display a WEFAX image. Channel(expands into ChannelX) has documentation
in Finish. Do a web search for drig(Dallas Remote Imaging Group),

They have a lot of information on all aspects of space. Drig has a program, SBDSP that will convert a wav file(recorded with your sound card) into a img file which you should be able to display with Aptcap40. I have not had anyluck with the SBDSP route(but others have had good results. The Demo-ftv is great, good documentation etc. ChannelX works, but I can not read his docs. JVFAX 7.0 (with the simple opamp and "front end") work very well, even with a diakcone and a Pro12004. The Tagert book is full of information on both the low orbit and the Geosynch "birds". His section on displays is a litle dated(what isn't these days) but the rest of the info will really help. His simple antenna really works.
I hope that this rather disjointed reply at least get you going in the right direction. While you will get the best results with the "proper" equipment, you can get exciting results with simple equipment and start on the road to better results by improving your equipment and knowlege a step at a time. I started out with JVFAX, a Pro2004 an a diskcone. I imprved the antenna next(a "cut" turnstille with preamp), next a real demodulator (a A&A mutlifax demod) and last an outboard IF strip for the Pro2004. My next upgrade will be a dedicated receiver.
Good Viewing!

3071. variable capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: darrellk@internetland.net
Message-ID: <319899ad.12120685@news.internetland.net>
Source record: 105399

anyone know where I can buy or "get" a 3 section ,100 pf variable
capacitor? High voltage not needed. Thanks
E-Mail darrellk@ internetland.net

3072. Re: BIG Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <3198a019.68810630@news.santafe.edu>
Source record: 105400

Chuck Bland <BlandRanch@postoffice.worldnet.att.net> wrote:

>I am building a 450 ohm, non-inductive dummy load. I found what appears
>to be a surplus load. It have 4 black "tubes"; 2 each in parallel with
>the two pairs in series. Looks like it is close to what I am looking for.
>
>I want to know if the resistors are non-inductive. Again, they are black
>tubes, about 2 inches in diameter and over 14 inches long. There are some
>markings. They are:
>
>Carborudum Co.
>892 SP451K
>450 Ohms P/M 10%
>750 Watts
>
>Anyone have any clues about these BIG resistors?
>
>Chuck Bland - n6dbt
>Sacto, CA
>
>
You're in luck. These are non-inductive resistors made of bulk
material. Carborundum is now owned by CESIWID (or something like
that) if you want more info. I don't have my catalog handy, but the
only other information they would have that you don't already know is
the peak voltage and the peak energy ratings which are useful for
pulse applications. but don't matter for rf.

One caveat is that the resistors are slightly nonlinear with voltage
and they increase in resistance when the get hot (as much as 20%).

None of this matters much for an rf load.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com/jpaw/

3073. help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: bprender@lynx.dac.neu.edu
Message-ID: <bprender-140596123213@dept0627.gte.com>
Source record: 105401

Here the situation, I'm just starting in on this radio thing and I'm having a problem figuring out what is best. I started with a couple of 49 MHZ radio shat in pocket communicators so I could play paintball and talk to another member of my team at the same time. I quickly found out that the refs use the same frequency and that the rang and clearity wasn't that good. I nneded something that would work better since I didn't have time to play around with things while I was playing paintball. I also tryed to use these in the car since we travel in multiple cars a lot and I thought it would be nice to be able to talk to each other. At any rate this didn't work. I returned them and figured I would give a CB a shot. It started out really good, then I realized that the CB (a hand held one) would be great for paintball, but not very good for the car since it picked up every little electronic devise in my car, since I have a stereo well over $1000 and an alarm to guard it along with a radar detector to watch for police oh and I can't forget about the pager and cell phone. Anyway you get the point, I'm into electronics. So now I hear all about these HAM radios, and VHF. How far can they reach and what kinds are the best, how much do they cost, where can I get them, are there a lot of people using them? You get the idea, I have no clue about them. I know I need a licencse and that's about it. Some one has been a great help to me so far, any more help would be greatly appreciated. I am extreamly interested in what the benefits are off having the VHF as opposed to the CB. Well please get back to me, one of the more important things is cost and range. I want to creat a docking station for it for my home and for my pickup truck. I am very interested on how far people think they can go. Please email me at bprender@lynx.dac.neu.edu with any help. I don't read these all the time so I would probibly miss any resonse to this. Thanks for any help at all......

3074. Re: surplus stores in Boston, Philadelphia????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4naa8j$fq4@morgan.vf.mmc.com>
Source record: 105402

Tom,

You're sorta out of luck in the Philadelphia area. I know of a guy that has a warehouse in Bridgeport, Pa., about 25 miles west of Phila. (near where I live). He is not open on a regular basis. He does go to hamfests and usually is at Dayton. I'm not aware of anything else of significance in the area and I've lived here for over 25 years. Maybe some of your other responses will prove me wrong.

73, Harry, W3IIT

3075. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: wstewart@airmail.net
Message-ID: <4nahcs$lis@news-f.iadfw.net>
Source record: 105403
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

cj@hth.com (Christer Johansson) wrote:

>Hi,

>>Why are you posting this crap about stamps? It costs me money
>>to download news and I can't pick and choose. Who the Hell asked
>>you to do this?

>Received several of the above e-mail from a person who didn't like
>to give his name or e-mail address, he used an anonymous-remailer !

>However I would like to hear if others feel the same about L.O.S.A
>and if thats the case I will stop posting it.

>I understand that not everyone is using the STAMP but I think many
>people enjoy reading what could be done and maybe get som hints or
>inspiration for applications of their own or am I wrong ?

>Regards,

>/Christer

When I saw the article, I was able, without my mommy
helping me, figure out that it was a fairly large posting.

If this jerk would read, he could see the same and chose
not to load the article.

Keep posting, they are interesting, and something I
would like to try.

Have a wonderful day - I don't work for Internet America

Wes Stewart
E-Mail : wstewart@airmail.net
WWW site: www.webcell.com/wstewart

3076. Re: *Really* low noise-figure preamp designs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: kn5s@lascruces.com
Message-ID: <4naja0$f8a@chile.lascruces.com>
Source record: 105404

tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:

>I recall mention of high-power GaAsFETs being used to win the noise-figure ...

Zack Lau discusses these in QEX, March, 1996.

73, Mark KN5S DM62

Mark Mandelkern
Las Cruces, NM 88005 USA

3077. Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: kn5s@lascruces.com
Message-ID: <4nalgg$ha0@chile.lascruces.com>
Source record: 105405

Zack KH6CP/1 wrote:
>>> Flux calculations aren't as useful at HF, since the iron
> powder cores are typically limited by power dissipation,
> as opposed to core saturation ...

Zack:

Does this mean I can use any size powdered iron core toroid I want at any frequency, up through 2 meters, so long as it doesn't get too hot to touch? This is for SSB/CW transceivers and transverters, where I'm worried about IMD, and usually use oversized cores due to fear and ignorance.

73, Mark KN5S DM62

Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

3078. Re: Etching piezo-ceramic with saltwater? Homebrew SAW filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: Mallard Electronics <erniehodur@map.com>
Message-ID: <4naojm$3de@sgi13.map.com>
Source record: 105406
Cross-posted to: sci.materials.ceramics,rec.radio.amateur.homebrew,sci.electronics.components

Why not just buy a metalized quartz or lithium niobate wafer and ectch the aluminum off that? Those are the materials used (was in the business for 20 years) and cost is less than $30 for a wafer.

3079. F/S AVANTI MOONROTER MODEL AVR1

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: rchouts@onr.com
Message-ID: <4naptm$p5g@mari.onr.com>
Source record: 105407

For sale (new, never used) Avanti MoonRoter model AVR1 $100.00 or
make an offer.
360 deg. rotation
up to 8.5 sq. ft. wind load area

Email offer and or questions to rchouts@onr.com

R. C. Houts

3080. Re: Schematic for DTMF decoder

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: Dave <David.S.Schuman@att.com>
Message-ID: <4nam6u$cnk@ssbunews.ih.att.com>
Source record: 105408

Check out Motorola's Communications Device Data book. The device is MC145436 DTMF receiver(decoder). The device will output the decoded DTMF in 4-bit hex code. You can use that to drive an LCD display.

3081. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: Edward Lawrence <eal>
Message-ID: <4nal5d$bhb@fcnews.fc.hp.com>
Source record: 105409

I had always heard that it was lacquer vs. enamel that caused the wrinkle.
Aooarently a mix is in the spray can. Any one know for sure?

3082. Re: help needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: Edward Lawrence <eal>
Message-ID: <4nalpl$bhb@fcnews.fc.hp.com>
Source record: 105410

Go back to your favorite Radio Shack. Ask them for the material they stock on how tot become a Ham Opreator. Also ask them who to contact to take the test. Expect to be made to feel very welcome. Don't get mad and quit if you do run into the odd sorehead. I have been licenced for about 32 years, and I am glad to see ANY individual get ANY class of Amateur Radio Operators Licence.
Don't worry about questions you feel are 'dumb'. The only dumb questions are those you fail to ask. And don't be afraid to make and admit to mistakes! After all, you don't want to deny some people their idea of fun, when they correct you, do you? :-) Seriously, most hams are great people, and you will enjoy meeting them, and doing things that you have never thought of. Dive in! WA5SWD Ed.

3083. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: seurer@nordruth.rchland.ibm.com
Message-ID: <4naq9i$12go@news.rchland.ibm.com>
Source record: 105411
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4nahcs$lis@news-f.iadfw.net>, wstewart@airmail.net (Wes Stewart) writes:
|> When I saw the article, I was able, without my mommy
|> helping me, figure out that it was a fairly large posting.
|>
|> If this jerk would read, he could see the same and chose
|> not to load the article.

With some newsreaders/ISPs you just say which groups you are interested in
and all the news is automatically downloaded. With others you won't know
the size of an article until you look at it.

While I don't agree with the original complainer, I can see his point
about large articles. When a periodic posting gets large enough it ought
to be tucked away at some ftp and/or web site and just a reference to it
posted.

I am more disturbed about some of the followups, though. Besides rude
(name calling) and uninformed ("All newsreaders must be like mine") ones
like the above there was another person (whose sig IDed him as an
"Internet instructor" nonetheless) who said

> This is the nternet. It isn't your responsibility to be concerned
> because some people have access that costs them more money
> for more news. Post as you see fit.

Wow. Sure, post anything you want! Don't give a d*mn that you are
costing others money and grief! Use 100 line sigs! Add one line to
1000 line quotes from other messages! Spam to all the newsgroups
at once! Make Money Fast!! Sigh.
--

- Bill Seurer ID Tools and Compiler Development IBM Rochester, MN
Business: BillSeurer@vnet.ibm.com Home: BillSeurer@aol.com

3084. Boatanchorites and Glowbuggers Net

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <DrEnC3.Ly9@news.hawaii.edu>
Source record: 105412
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

As promised, here is the net info for you Boatanchor folks with your ARC-5's and you Glowbug folks with your homebrew Hartley's, provided by the OM himself, Boatanchor Bob, NA4G:

```
-----------------------
Generic BA/GB NET INFO:
-----------------------
QTR 0000/0100 UTC QRG 7051
QTR 0200/0300/0400/0500/0600 UTC QRG 3579.545 kc
Calling sequence: CQ BA CQ BA DE yourcall yourcall K
Call from on the hour to about 5 or 10 minutes after the hour.
The ``net'' or ``roundtable'' is informal (highly) and open to all
at any QRQ. If you don't hear anyone at a particular QTR, all again
on the next hour.
If NA4G is not there, by all means, go ahead anyway.....(:+}}....
Grapples ye up yer tin cans atop yer noggins' and readyes ye yer
keys at the fore......

73/ZUT DE NA4G/Bob UP
----------------------------------------------------------------------
```

Forwarded by Jeff KH2PZ

3085. Latest Version of Filter Design SW Available

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4nattd$eoi@cc.iu.net>
Source record: 105413

Announcing FilDes 2.01

I would like to draw your attention to the release of the newest version of my filter design program, FilDes (also known as FDS). FilDes 2.01 is a minor revision to correct a couple of bugs in the release of 2.0. FilDes is copyrighted to prevent others from using or selling my code, but is free for all users.

FilDes 2.0 brought the following features to the program.

* Design of Bessel (flat group delay) LP, HP and BP filters
* Design of Gaussian to -6 and Gaussian to -12 dB filters in LP, HP and BP.
* Design of Linear Phase with 0.05 and 0.5 degree equiripple phase error filters in LP, HP and BP.
* Extensive support built-in for ARRL Radio Designer (r) from the ARRL and Compact Software(r).
* Computation of duals of LP and HP filters for ease in diplexer design or more realize-able component values.
* A filter "estimator" for Systems Engineers, and others who don't want to build filters, but need to know how much filter they need.

The following FilDes features are still there, or have been improved.

* Design of LP, HP, BP, BR and narrow BP filters in Butterworth or Chebychev transfer functions with .001 to 3 dB of ripple.
* Design of Elliptic (Cauer) LP and HP filters.
* These designs carried out by synthesis, not look-up table.
* Calculation of the order required from these filter types to meet your attenuation requirements.
* Output to text printer or Touchstone (r) .CKT file format.
* Estimate of midband insertion loss for BP filters, based on component Q.
* Online, context-sensitive help.

The program comes with a companion utility called Airwndl (Air Wound L) which calculates the number of turns for an air-wound single-layer solenoid coil. A complete description of Fildes2 is included in the file FilDes2.doc, and also as a Windows 3.1 Write (r) file, FilDes2.wri. Everything is in a zipped archive called FDS201.ZIP. It is available at ftp.ee.ualberta.ca in the directory /pub/cookbook/softw/ibm and in the QRP-l archiveas at ftp.lehigh.edu, where it is currently found in /pub/listserv/qrp-l/tools.

73,
Bob

Statement of contribution policy: I never turn down cash, but send it
only out of undying admiration, not because of nasty shareware warnings.
FilDes is freeware.

The following bit of "mock legalese" is lifted from FilDes2.doc:

Trademarks, copyrights and the like

FilDes is copyright by Bob Lombardi.

HP, EEsof and Touchstone are registered trademarks and copyrights
of what is now HP/EEsof. HP is a registered trademark of the Hewlett
Packard Company. The ARRL is the American Radio Relay League, the US'
national amateur radio organization. ARRL Radio Designer is copyright
by Compact Software, Inc., and the American Radio Relay League. Windows,
and Windows Write are trademarks and copyrights of Microsoft Corporation.
I have no connection with any of them aside from being a member of the
ARRL.

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

3086. Re: WTB: Unassembled Heathkit Ham Gear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: "David G. Maley" <dgmaley@inav.net>
Message-ID: <319947B3.544C@inav.net>
Source record: 105414

MSmith wrote:
>
> I am looking to purchase any and all unassembled Heathkit HAM gear that
> you may have. I will pay absolutely top dollar. Please let me have first
> crack at bidding.
>
> Thanks,
> Mark SmithDoes it have to be Ham equipment? I have available a Heath ultrasonic burgular alarm. It looks like a book when assembeled. Still in the original shipping box. Got it at a local hamfest and have never taken the time to assemble it. Dave. WA0ZZG.

3087. Re: Seeking info on modulation xfmr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4nakjs$bgp@news.calweb.com>
Source record: 105415

dick@netcom.com (Richard Arnold) wrote:
>
>I know it's a long shot: I have an old Inca modulation transformer
>from about 1936 which I'm trying to use in a newly-built AM xmtr.
>
>Does anyone happen to have a spec sheet on this item?
>
>Modulation transformer made by Inca (Phelps-Dodge) model N30A.
>
>thanks for reading and 73,
>
>Dick Arnold, W5VEC
>dick@netcom.com
If you can't get the spec's. you can get most of the info. you
need by measuring the size of the core and from that determine
the power capacity. The winding ratio can be measured directly
by putting a small amount of signal on one winding and measuring
the other winding. There should be two windings one of which is
usually center tapped for a push pull amplifier. The current rating
can be determined by measuring the resistance then running current
through and checking the increase in resistance. from that you can get
the temperature rise. The total transformer should not be over 140
degrees MAX. cooler is better. I have never done the temperature
experment so am probably not totally correct. Maybe others can
provide better details.

Bill K7NOM

3088. Re: BIG Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-1405962001440001@squaw-d26.sierra.net>
Source record: 105416

You got the real McCoy's. I believe that Carborundum sold their resistor line to Ceswid (the current manufacturer of big non-inductives) or else they just spun it off.

> I want to know if the resistors are non-inductive. Again, they are black
> tubes, about 2 inches in diameter and over 14 inches long. There are some
> markings. They are:
>
> Carborudum Co.
> 892 SP451K
> 450 Ohms P/M 10%
> 750 Watts
>
> Anyone have any clues about these BIG resistors?
>
> Chuck Bland - n6dbt
> Sacto, CA

Bob Tetrault
Tahoe City

3089. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDrFLuA.GHn@netcom.com>
Source record: 105417
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

in <3197B7C6.5477@amresearch.com>, Albert Lee Mitchell wrote:
: I agree Christer, even those of us who don't use the Basic
: Stamp are interested. And congratulations on your self-control. I
: sometimes find it difficult to hold my tongue with the rude and
: nasty whiners here.

Where's here?

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew
rec.radio.amateur.misc

At least a couple of these groups (the rec.radio.amateur ones)
are gatewayed to mailing lists, and posting large items to them
is guarenteed flame bait.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

3090. schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: "Heshy(Robert) Bucholz" <hbucho01@barney.poly.edu>
Message-ID: <319912B9.4D5@barney.poly.edu>
Source record: 105418

I'm trying to start an amateur radio here at Brooklyn Poly and would like to know where I can find schematics or a good kit to build one. Thanks

3091. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: chucks@harrier.csrv.uidaho.edu
Message-ID: <4narh7$of3@newshound.csrv.uidaho.edu>
Source record: 105419
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

> >>Received several of the above e-mail from a person who didn't like
> >>to give his name or e-mail address, he used an anonymous-remailer !

> Chris,

> This is the nternet. It isn't your responsibility to be concerned
> because some people have access that costs them more money
> for more news. Post as you see fit.

> Bill Sohl (Amateur Radio Operator K2UNK)
> Internet Instructor, Mount Olive (NJ) Community School

Ditto for me...LOSA should be posted here..that way more
readers will be able to work with embedded controllers. Just reading
what others are doing is helping others get started. The stamp has
paved the way for things to come..New paradigms are always
resisted by those who are established in the old ways of doing things.
Oh yes...I've done my share of assy, eprom burning and it was the
main thing that kept a lot of otherwise able technicians/hobbiests
and researchers out of the field..Not anymore.
--
chucks

Chuck Schoeffler;ARS: WB7NEZ chucks@raven.csrv.uidaho.edu
Univ. of Idaho; (208) 885.6492 http://www.uidaho.edu/~chucks

3092. AM noise blanker-?possible

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-14 00:00:00 UTC
From: maildoc@iafrica.COM
Message-ID: <3198E626.22EB@iafrica.com>
Source record: 105420

Most modern noise blankers work on SSB and not AM
If you have a reference for bulding an noise blanker suitable for
ignition pops whilst listening on AM please email me.
Where can I get this IC? ULN3846A by Allegro INC.
Ian
ZS6KB

3093. HF Linear Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: Miguel Angel Simoes Santiago <radimprensa@mail.telepac.pt>
Message-ID: <3199FE68.13B4A7EE@mail.telepac.pt>
Source record: 105329

Anyone here has experience on building LiearAmps?

What is the best:

To use Lamps... or
To use MosFets ?

Mosfets from Motorola, bring a power of 600W from a input
of 10W.. so how do I match my 100W output to an Amplifier based
on this device?

Any ideas... please give me a call..

CT2GDD
Miguel

3094. Re: Nail polish as coil dope??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <4ncoda$d3q@mrnews.mro.dec.com>
Source record: 105330

In article <4n7e1a$15h4@newsgate.sps.mot.com>, Jim <jstrohm@texas.net> writes...
>I haven't measured a change in perfornamce by adding coil dope (and
>I have used a wide variety of glues, besides nail polish), but I've

Well, for what it's worth, I've measured the Q of toroids dipped in plain old polyurethane varnish, the kind you'd finish furniture with, and it has a fairly insignificant effect at about 10 MHz or less.

The only advantage I know of is mechanical stabilty, which might matter if the rig is subject to vibration or shock. Sort of similar to dripping beeswax on your coil slugs, I guess.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@est.enet.dec.com
==========

3095. capacitor value?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: daveb@ihr.mrc.ac.uk
Message-ID: <DrG3p0.5Ly@cs.nott.ac.uk>
Source record: 105331

I am trying to identify the value of the variable capacitor used
in a 6metre stripline filter as depicted in ARRL handbook interferance
section.
The capacitor in question is a Hammarlund HF-30-X.
I know I could build it and then tinker around with various capacitors
to get it working but heck there must be someone out there that already
knows the answer.
In anticipation Dave G6UWO.

3096. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: wa4pgm@moonstar.com
Message-ID: <NEWTNews.832190787.15140.wa4pgm@wa4pgm.moonstar.com>
Source record: 105332

In Article<4n85dq$l2s@hg.oro.net>, <rst-engr@oro.net> write:
> Path: news1.mnsinc.com!server.esva.net!athos.itribe.net!imci5!pull-feed.internetmci.com!news.internetMCI.com!newsfeed.internetmci.com!in2.uu.net!oronet!usenet
> From: rst-engr@oro.net (Jim Weir)
> Newsgroups: rec.radio.amateur.homebrew
> Subject: Re: What makes crackle(wrinkle) paint crackle (wrinkle)??
> Date: Mon, 13 May 1996 20:15:52 GMT
> Organization: RST Engineering
> Lines: 19
> Message-ID: <4n85dq$l2s@hg.oro.net>
> References: <4hn3or$58c@dfw-ixnews3.ix.netcom.com> <4n596a$o31@tierra.santafe.edu>
> NNTP-Posting-Host: rst-engr.oro.net
> X-Newsreader: Forte Free Agent 1.0.82
>
> jpotter@jpaw.com (Jim Potter) shared the following priceless pearls of
> wisdom:
>
> >Heat.
>
> I've gotten some good results by spraying a full wet coat of enamel
> onto the surface to be wrinkled, letting it dry to tacky, then
> spraying a thin coat of the same color lacquer over the enamel. Sit
> it in the sun for an hour and it will wrinkle. Evidently the solvents
> used for one attack the other.
>
> Jim
>
> Jim Weir VP Engineering | You bet your sweet patootie I speak for the
> RST Engineering | company. If I don't, ain't nobody gonna.
> Grass Valley CA 95945 |
> http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
> rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic
>
Also a to thick of layer of paint will wrinkle sometimes.
The top starts to dry before the paint underneath has a
chance and this will cause wrinkling.
So two coats are better than one thick coat, unless you
want the wrinkle.
Good Luck,
Kyle

Painting, Wallpapering, etc...

www.moonstar.com/~wa4pgm

Amateur Radio--Civil War--Kayaking--Nascar

3097. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4nde65$ple@newsbf02.news.aol.com>
Source record: 105333

In article <4nc17k$pk8@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>Heating is not necessarily the limiting factor in SSB and other
>linear modes with a high peak-to-average power ratio. Saturation
>is still a concern and you must determine whether the peak RMS
>voltage across the winding will cause this condition. To play it
>safe in making calculations, I always assume that the peak capability
>of the transmitter is actually the average power output. If this
>power level is used with the Amidon flux formula and the result falls
>below their recommended maximums, it is safe to assume that saturation
>will not occur.
>
>As a side note, the recommendations published in the Amidon catalog
>only cover the frequency range from 1 to 30 MHz.
>
>73,
>Jack WB3U

Consider the following also.

Circuit operating (loaded) Q affects the power handling capability. Higher operating Q's mean lower power handling for a given core size.

As a general rule, you can not short taps on the winding of a toroid without reducing unloaded Q and efficiency, and increasing component heating. Especially in a high loaded Q circuit. Yet this must be done to avoid arcing and unwanted resonances when a coil is used over wide frequency ranges. There are some exceptions to this, but great care must be taken to avoid trouble.

Toroids, when used in the high Q section of a tank, always decrease harmonic suppression and lower efficiency when compared to well designed air core tank coils.
In my view if you don't have a real space problem, stick with air wound coils and save yourself from potential headaches.

73 Tom

3098. Re: WEATHER PICS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4nc6a6$6n@news.calweb.com>
Source record: 105334

In the request for information the question of moving pictures was included. The pictures you get from the satelites are still pictures. To get moving pictures you have to store many still pictures and then display them in sequence.

Bill K7NOM

3099. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <319A115F.4002@arrl.org>
Source record: 105335

Mark Mandelkern KN5S wrote:
>
> Zack KH6CP/1 wrote:
> >>> Flux calculations aren't as useful at HF, since the iron
> > > powder cores are typically limited by power dissipation,
> > > as opposed to core saturation ...
>

> Does this mean I can use any size powdered iron core toroid I want at
> any frequency, up through 2 meters, so long as it doesn't get too hot
> to touch? This is for SSB/CW transceivers and transverters, where I'm
> worried about IMD, and usually use oversized cores due to fear and
> ignorance.

Wes Hayward *speculated* about this on page 226 of Solid State Design. I tried measuring the IMD 8 or 9 years ago with really tiny iron powder cores didn't find anything worth publishing. Similarly, I tried shorting out a turn of a toroid and measuring the Q degradation on the Q meter. This time I did measure a small change, but not really enough to worry about when designing reproducible circuits. To me, this seems reasonable when you consider the relatively low permeability of the high Q materials used by amateurs at RF. In school, we often made the simplifying assumption that all the lines of flux were in the core--not a good assumption here.

It isn't all that difficult to make a 2 meter test fixture. You can combine signals from a pair of HTs in a 6/4 wavelength hybrid ring and listen to the output of the device under test (suitably attenuated) with a highdynamic range SSB/CW receiver (perhaps a direct conversion design).

Zack KH6CP/1 zlau@arrl.org

3100. K5IRK-W7ZOI Rcvr.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: Barry Williams <tticon@wt.net>
Message-ID: <319A22AC.764D@wt.net>
Source record: 105336

Just finishing up my copy of the Progressive Receiver. Does anyone have comments, suggestions or modifications? TIA

Barry Williams
KD5VC

3101. Help..... How do I do the FT-530 mod???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: kc8dml@aol.com
Message-ID: <4ndenq$prh@newsbf02.news.aol.com>
Source record: 105337

I own a FT-530 and have heard many things about the modifications for it. I read numerous files that said to unsolder Jumper 13 for extended TX and RX. Or Jumper 15 for just extended RX. Is this correct??? One spot said I had to unsolder them both..... Is it true that it will have 800 RX capabilities???

Any help would be appreciated..... Just email me or if you live in the Cleveland Area, give me a call.

THX de KC8DML
Rob McKrill
Chardon, Ohio
(216) 286-7243

3102. Re: schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: kn5s@lascruces.com
Message-ID: <4ndigg$nbb@chile.lascruces.com>
Source record: 105338

"Heshy(Robert) Bucholz" <hbucho01@barney.poly.edu> wrote:

>I'm trying to start an amateur radio here at Brooklyn Poly and would
>like to know where I can find schematics or a good kit to build one.
> Thanks

The ARRL Handbook would be the best place to start.

Good Luck; see you on the bands.

73, Mark KN5S DM62

Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

3103. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: Robert Morris <robrk@fyi.net>
Message-ID: <319A6958.3E10@fyi.net>
Source record: 105339

wa4pgm@moonstar.com wrote:
>
> In Article<4n85dq$l2s@hg.oro.net>, <rst-engr@oro.net> write:
> > Path: news1.mnsinc.com!server.esva.net!athos.itribe.net!imci5!pull-feed.internetmci.com!news.internetMCI.com!newsfeed.internetmci.com!in2.uu.net!oronet!usene
> > From: rst-engr@oro.net (Jim Weir)
> > Newsgroups: rec.radio.amateur.homebrew
> > Subject: Re: What makes crackle(wrinkle) paint crackle (wrinkle)??
> > Date: Mon, 13 May 1996 20:15:52 GMT
> > Organization: RST Engineering
> > Lines: 19
> > Message-ID: <4n85dq$l2s@hg.oro.net>
> > References: <4hn3or$58c@dfw-ixnews3.ix.netcom.com> <4n596a$o31@tierra.santafe.edu>
> > NNTP-Posting-Host: rst-engr.oro.net
> > X-Newsreader: Forte Free Agent 1.0.82
> >
> > jpotter@jpaw.com (Jim Potter) shared the following priceless pearls of
> > wisdom:
> >
> > >Heat.
> >
> > I've gotten some good results by spraying a full wet coat of enamel
> > onto the surface to be wrinkled, letting it dry to tacky, then
> > spraying a thin coat of the same color lacquer over the enamel. Sit
> > it in the sun for an hour and it will wrinkle. Evidently the solvents
> > used for one attack the other.
> >
> > Jim
> >
> > Jim Weir VP Engineering | You bet your sweet patootie I speak for the
> > RST Engineering | company. If I don't, ain't nobody gonna.
> > Grass Valley CA 95945 |
> > http://www.rst-engr.com | AR Adv WB6BHI--FCC 1/C phone--Cessna 182A N73CQ
> > rst-engr@oro.net | Commercial/CFI-Airplane/Glider-----A&P Mechanic
> >
> Also a to thick of layer of paint will wrinkle sometimes.
> The top starts to dry before the paint underneath has a
> chance and this will cause wrinkling.
> So two coats are better than one thick coat, unless you
> want the wrinkle.
> Good Luck,
> Kyle
>
> Painting, Wallpapering, etc...

>
> www.moonstar.com/~wa4pgm
>
> Amateur Radio--Civil War--Kayaking--Nascar

Don't know, but if you need fresh stuff...go to a car parts store....

Bob...K2RK

3104. Re: HF Linear Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ndfkd$b1p@crash.microserve.net>
Source record: 105340

Miguel Angel Simoes Santiago <radimprensa@mail.telepac.pt> wrote:

>Anyone here has experience on building LiearAmps?
>
>What is the best:
>
> To use Lamps... or
> To use MosFets ?

I personally prefer tubes, at least for fixed station use. The low cost of 811A's makes four of them a prime choice for this power level. When I purchased my amplifier used about six years ago, I selected it on this basis. It uses four of these tubes and will output about 750 watts CW (not 100% duty cycle) and better than 1 KW on SSB.

572B triodes, the big brother to the 811A, will provide greater plate dissipation but they are considerably more expensive per watt and don't seem to be as efficient. In addition, four of them in parallel can be difficult (but not impossible) to stabilize. If higher power levels and duty cycles are desired, a single 3-500Z is probably a better choice.

>Mosfets from Motorola, bring a power of 600W from a input of 10W.. so
>how do I match my 100W output to an Amplifier based on this device?

Assuming there's no driver stage that can be bypassed or removed from the amplifier circuit, you're pretty much stuck with either reducing the power of the transmitter or using swamping resistors. The latter is preferable from the standpoint of minimizing distortion products, but it wastes power.

73,
Jack WB3U

3105. FS RECEIVE CONVERTER

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: Piers Rochford <piers@sling.demon.co.uk>
Message-ID: <266880709wnr@sling.demon.co.uk>
Source record: 105341

-- FOR SALE :

UC1332 Up converter allowing a 2m transeiver/receiver or
scanner to receive HF signals. ONLY RECEIVE!

This unit comes with full instructions including a full
schematic diagram. This is a commercially available which has
been made from kit form and used for reception, it works.

20.00 UKP Including postage and packing within the mainland
UK (25.00 UKP Outside of the UK)

For more info email

---

piers@sling.demon.co.uk

3106. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: billsohl@planet.net
Message-ID: <4ndqn5$96e@jupiter.planet.net>
Source record: 105342
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

mzenier@netcom.com (Mark Zenier) wrote:

>in <3197B7C6.5477@amresearch.com>, Albert Lee Mitchell wrote:
>: I agree Christer, even those of us who don't use the Basic
>: Stamp are interested. And congratulations on your self-control. I
>: sometimes find it difficult to hold my tongue with the rude and
>: nasty whiners here.

>Where's here?

>comp.robotics.misc
>comp.home.automation
>sci.electronics.misc
>rec.radio.amateur.homebrew
>rec.radio.amateur.misc

>At least a couple of these groups (the rec.radio.amateur ones)
>are gatewayed to mailing lists, and posting large items to them
>is guarenteed flame bait.

The fact that some newsgroups are gatewayed to one or more
mailing lists should not be a consideration to what gets
posted to any newsgroup. As long as there is reasonable
subject matter related to the newsgroup, the various net.censors
should have nothing to complain about. If and when traffic
in any newsgroup is a problem for a list that rebroadcasts
as a mailing list, then the mailing list administrator has to
consider those situations.

In another post I commented that it isn't a poster's responsibility to
be concerned about those individuals that have a more
expensive access (time and usage charges, etc.) That's
true. IF you want to worry about the person that pays
more for access because of content volume, that's
fine, BUT the majority of net access isn't oriented that
way and it is, therefore, a personal decision if a poster
wants to minimize length. That's no different than
web page creation. Sure you can complain that some
web pages have too much graphics to download,
but that is a matter of the web page creators choice.

The internet is open to many, some have limited
access (low modem speeds, etc), but that shouldn't
limit posting by the vast majority. I once only had

a 1200 baud modem, I upgraded, so did millions of
others. That is the evolution of technology. So be it!

Bill Sohl (Amateur Radio Operator K2UNK)
Internet Instructor, Mount Olive (NJ) Community School

3107. Re: surplus stores in Boston, Philadelphia????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: yee@mipg.upenn.edu
Message-ID: <YEE.96May15192231@mipgsun.mipg.upenn.edu>
Source record: 105343

Philadelphia area...

Fertik's. They are open Thurs eve and Sat morning. At least they
used to be. Mrs. Fertik passed away a few years ago and Mr. Fertik
was thinking about closing up shop about two years ago.
--
| 73 de Conway Yee, N2JWQ | DON'T
| EMAIL : yee@mipg.upenn.edu | TREAD
| TELEPHONE : | ON
| FAX : | ME!

3108. TenTec 2M->6M Xvrtr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: markem@primenet.com
Message-ID: <4ne7hm$del@nnrp1.news.primenet.com>
Source record: 105344
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Has anyone built the TenTec 2M-to-6M transverter? I'm thinking about buying one to get on 6M FM. I'd be interested in hearing opinions/experiences about it. If it's as good as the 20M-to-6M unit it should be worthwhile.

Tks & 73.... Mark AA7TA

3109. UHF "grid" dip meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: hjohnson@pluto.njcc.com
Message-ID: <TtbcnuoWW$tF079yn@pluto.njcc.com>
Source record: 105345

I'm building a radio telescope at 400 MHz. One of the problems I have is trying to tune it and balance it. Seems hard to find used gear that will work at 400 (not 440!) MHz. Most dip meters are lower - 200 MHz or less. In an older ARRL Handbook, I found a grid dip meter using a Nuvistor - 6CW4 - circuit good to several hundred MHz. It's interesting that it's hard to beat a vacuum tube for low input capacitance. The 6CW4 boasts a fraction of a pf for grid capacitance. This appears to keep the loading down on the resonant circuit and thus increases its sensitivity. So, a ham friend of mine is preparing to build it. I'm a digital EE so this UHF stuff is a bit out of my league - but it's a learning experience!

Does anyone challenge the above statements? And can they offer a semiconductor alternative that would work as well? (Short of buying some umteen $$$$ piece of equipment.)

Herbert R. Johnson voice/FAX 609-771-1503 day/nite
hjohnson@pluto.njcc.com Ewing, NJ (near Princeton) USA

occasional amateur astronomer at odd frequencies and hours
and senior engineer at Astro Imaging Systems: old photons to new bits!

3110. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4nbbas$b5v@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105421

I secont Granvin's experience. Cannot remeber article, may be same. Also used safety pin on blade. Used pencil "lead" across two upright razors to make a "carbon" microphone also.

3111. DAYTON: Surface Mount parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: kas@wisenet.net
Message-ID: <kas-1405962030040001@w102.wisenet.net>
Source record: 105422
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

We will be at DAYTON parking spots 4055 & 4056 with the usual assortment of parts: chip resistors, chip caps, mica chip caps, chip inductors, tantalums, some transistors and leaded parts including mica caps.

kas

3112. Re: variable capacitor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: kn5s@lascruces.com
Message-ID: <4nbh32$9ti@chile.lascruces.com>
Source record: 105423

darrellk@internetland.net (Darrell kimball) wrote:

>anyone know where I can buy or "get" a 3 section ,100 pf variable
>capacitor? High voltage not needed. Thanks
>E-Mail darrellk@ internetland.net

Fair Radio usually has something like that.

Please put your callsign on posts.

Good luck with your project.

73, Mark KN5S DM62

Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

3113. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4nc17k$pk8@crash.microserve.net>
Source record: 105424

kn5s@lascruces.com (Mark Mandelkern) wrote:
>Zack KH6CP/1 wrote:

>> Flux calculations aren't as useful at HF, since the iron
>> powder cores are typically limited by power dissipation,
>> as opposed to core saturation ...

>Does this mean I can use any size powdered iron core toroid I want at
>any frequency, up through 2 meters, so long as it doesn't get too hot
>to touch? This is for SSB/CW transceivers and transverters, where
>I'm worried about IMD, and usually use oversized cores due to fear
>and ignorance.

Amidon states that "With a normal sinewave signal above 100 KHz,
both the Iron Powder and Ferrite type cores will first be affected
by overheating caused by core losses, rather than by saturation."
In keeping with this statement, the flux density limits recommended
in the Amidon catalog are related strictly to overheating and are
well below levels that would cause saturation.

Heating is not necessarily the limiting factor in SSB and other
linear modes with a high peak-to-average power ratio. Saturation
is still a concern and you must determine whether the peak RMS
voltage across the winding will cause this condition. To play it
safe in making calculations, I always assume that the peak capability
of the transmitter is actually the average power output. If this
power level is used with the Amidon flux formula and the result falls
below their recommended maximums, it is safe to assume that saturation
will not occur.

As a side note, the recommendations published in the Amidon catalog
only cover the frequency range from 1 to 30 MHz.

73,
Jack WB3U

3114. Re: 2m amp using 2 x 4CX250B

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: Lennart Nilsson <ln@hagagymnasiet.norrkoping.se>
Message-ID: <4nc3e7$rn@simba.lejonet.se>
Source record: 105425

The K2RIW stripline design has been described in QST. Also take a look at Ham Radio Magazine april -87, where three tubes are used. The article has also been published in UKW-Berichte/VHF Communications.
The RSGB VHF-UHF Manual 4th edition contains a push-pull amplifier.
73 de Lennart, SM5DFF

3115. New Anonymous Remailer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: privacy@interlink-bbs.com
Message-ID: <9605141452.D8143DF@interlink-bbs.com>
Source record: 105426

You may be familiar with anon.penet.fi, which give you an
anonymous account.

Our service allows YOU to choose what the return address will be!

Please write for more info.

3116. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_832159577@rtfm.mit.edu>
Source record: 105427
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb, rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet mailing list counterparts and complements. It is intended to serve as a guide for the new reader on what to find where. Questions and comments may be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October 1994 to add the discussion of non-Usenet mailing lists and streamline most of the history discussion, and to change the moderator information for rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions were held on the mailing list, and sent to the mailboxes of those who had signed up for it. When the Usenet software was created, and net news as we now know it was developed, a newsgroup was created for hams: net.ham-radio. The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became progressively higher. First one by one, and then as part of two reorganizations, what was once one group became many. In the process, developments elsewhere on the net were reflected in the groups as they were created, most notably the change to place all of the ham radio groups in one hierarchy.

The collection of newsgroups continues to grow as more people join the net, and as more topics of discussion gain volume, I expect to see more groups be created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the notable exception being rec.radio.swap. There are also a few mailing lists that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them, and not to the groups that aren't. The whole idea of having different

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

3117. Re: DAYTON: Surface Mount parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-15 00:00:00 UTC
From: kenny@erinet.com
Message-ID: <3199cc8b.2846432@news.erinet.com>
Source record: 105428
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.components

kas@wisenet.net wrote:

>>We will be at DAYTON parking spots 4055 & 4056 with the usual assortment
>>of parts: chip resistors, chip caps, mica chip caps, chip inductors,
>>tantalums, some transistors and leaded parts including mica caps.
>>
>>kas

Bring your rain gear. They're predicting rain in the afternoons, with
temperatures in the 80's.

See you there.

Ken Gunton WB6QWF TL Distributing - Microwave and RF Components
CAGE Code 01DH7 http://www.erinet.com/kenny/microwave.html

3118. Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: lumkes@cae.wisc.edu
Message-ID: <4ne42c$17bk@news.doit.wisc.edu>
Source record: 105346

Hi, wondering if someone could tell me an easy way to
use my old ammeter (1 mA FS) to show 0-FS using only the
range of 11-14 volts. Is there an easy way to have the
scale reflect only this voltage range and not the
whole 0-14 volt range?

Thanks, John AA9QP
lumkes@cae.wisc.edu

3119. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4nekln$pl9@crash.microserve.net>
Source record: 105347

w8jitom@aol.com (W8JI Tom) wrote:

>Consider the following also.
>
>Circuit operating (loaded) Q affects the power handling capability.
>Higher operating Q's mean lower power handling for a given core size.

This is true as long as the term "operating" Q isn't overlooked.
Regardless of inductor Q, it's the voltage across the windings that
will determine flux density. If that voltage is restrained by the
impedance of the circuit that the inductor is installed in, the Q of
the inductor itself (within reaason) will be of little significance.
The Amidon formula for flux density does not require entering either
inductor Q or the specific core material. Note that it also assumes
that none of the turns are shorted. ;)

<good info deleted>

>Toroids, when used in the high Q section of a tank, always decrease
>harmonic suppression and lower efficiency when compared to well
>designed air core tank coils. In my view if you don't have a real
>space problem, stick with air wound coils and save yourself from
>potential headaches.

It's funny that you brought this up. I recently had an e-mail
conversation with someone attempting to do this. My advice was
that he should use a separate toroidal inductor for each band,
rather than bandswitching a single device. When this is done,
the perceived advantage of space savings usually attributed to
toroidal designs completely disappears, as do any possible
economic advantages.

73,
Jack WB3U

3120. Re: Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.137.0094DC4B@mindspring.com>
Source record: 105348

In article <4ne42c$17bk@news.doit.wisc.edu> lumkes@cae.wisc.edu (John Lumkes) writes:
>Hi, wondering if someone could tell me an easy way to
>use my old ammeter (1 mA FS) to show 0-FS using only the
>range of 11-14 volts. Is there an easy way to have the
>scale reflect only this voltage range and not the
>whole 0-14 volt range?

Yes, Ascii schematic follows (use monospace font)

```
(+) ---------|<|---------/\/\/\/\/\-----(meter)------- (-)
ZD1 R1 M1
```

ZD1 is a zener diode at approximately your low voltage
... 9.1 volts is quitecommon. So if you use 9.1, the meter
will read 9.1-FS

R1 sets full scale. Select by:

[(Desired Full Scale) - (Zener Voltage)]/FSmeter;

for your project that is (14-9.1)/.001) = 4900 ohms

(to be absolutely accurate, take into account the meter
resistance ... but DONT measure it with an ohmmeter!)
IE if meter is 380 ohms, then the resistor would be
4900-380 = 4520 ohms

for casual use (ie storage battery monitoring) this is adequate,
but realize that a zener diode is not "flat" and that the
voltage accross it can move about 1/2 v from "just conducting"
to FS; that is why I would use 9.1 V and throw away all readings under
about 10-11 V.

Hope this helps.
Regards,
Ed KB4ORA

3121. Re: Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4nen56$pov@crash.microserve.net>
Source record: 105349

lumkes@cae.wisc.edu (John Lumkes) wrote:

>Hi, wondering if someone could tell me an easy way to
>use my old ammeter (1 mA FS) to show 0-FS using only the
>range of 11-14 volts. Is there an easy way to have the
>scale reflect only this voltage range and not the
>whole 0-14 volt range?

The first step is to set up the meter with an appropriate series resistor so that it provides full scale deflection at 3 volts. Then, place a combination of zener diodes (and/or forward-biased diode junctions) in series so that exactly 11 volts is dropped by the diodes. This will prevent any voltage below 11 volts from causing deflection, and 14 volts will be reduced to 3 volts at the meter, causing full scale deflection.

73,
Jack WB3U

3122. Anybody Built the Battery Charger in Mar 94 QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: Ron Giuntini <rong@204.160.88.10>
Message-ID: <4neb2p$mjp@news1.slip.net>
Source record: 105350

I am building the Spencer charger for gel cells that was in the Mar 94 QST. Has anyone else built it? I have a few questions. I think I finally have it all figured out but I would like to see who else if anyone has completed it. The author is in England and I'm not sure I can correspond with him unless he is on this group. (Ha HA) Anyway, just wondering. rong@slip.net Please email me if you know what I am building.

3123. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4nekn9$pl9@crash.microserve.net>
Source record: 105351
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

billsohl@planet.net (Bill Sohl) wrote:

>The fact that some newsgroups are gatewayed to one or more
>mailing lists should not be a consideration to what gets
>posted to any newsgroup.

There was a similar discussion recently on one of the rec.radio
newsgroups. The topic was whether binary files should be posted,
and the overwhelming consensus was that they should not. The
reason given was exactly what you are attempting to dismiss, that
is, the inconvenience and cost incurred by those who subscribe
to the group through a mailing list.

>Bill Sohl (Amateur Radio Operator K2UNK)
>Internet Instructor, Mount Olive (NJ) Community School

You seem to be preaching a policy of general discourtesy. Something
tells me your students will end up as being flamed more than most.

73,
Jack WB3U

3124. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4ne1ru$pob@hpscit.sc.hp.com>
Source record: 105352

In article <319A115F.4002@arrl.org>, Zack Lau <zlau@arrl.org> wrote:
>Mark Mandelkern KN5S wrote:
>>
>> Zack KH6CP/1 wrote:
>> >>> Flux calculations aren't as useful at HF, since the iron
>> > powder cores are typically limited by power dissipation,
>> > as opposed to core saturation ...
>>
>
>> Does this mean I can use any size powdered iron core toroid I want at
>> any frequency, up through 2 meters, so long as it doesn't get too hot
>> to touch? This is for SSB/CW transceivers and transverters, where I'm
>> worried about IMD, and usually use oversized cores due to fear and
>> ignorance.

Powered iron has three properties compared to ferrite that mean
you probably don't have to worry about IMD:

1. Being made of iron, not iron oxide like ferrites, the saturation
flux density is on the order of 2 Teslas, not .2 to .4 Teslas like
ferrites.

2. The core loss is typically higher than ferrites.

3. The permeability is quite low.

The combination of these properties means that it is practically
impossible to saturate a powered iron bead because it will burn up
long before you can saturate it, unless you were hitting it with
low duty cycle pulses. (SSB has too high a duty cycle for this).

HOWEVER, it is still possible to get IMD effects without going
anywhere near saturation. For example, if you build an oscillator
with a ferrite core inductor and locate it near a 60 Hz. transformer,
the stray magnetic field (only a few milliTesla) will modulate the
permeability of core and FM the oscillator.

I would still be very surprised if this IMD got up to a level that
would be significant in terms of an SSB transmitter, where the
3rd order intermod is only 30 dB. down to begin with.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3125. Re: capacitor value?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <qQ2GvIAtGumxEwpa@ifwtech.demon.co.uk>
Source record: 105353

Dave Bullock wrote:
>I am trying to identify the value of the variable capacitor used
>in a 6metre stripline filter as depicted in ARRL handbook interferance
>section.
>

We don't know what Dave's interference problem is, but high-Q bandpass filters are a deeply unpleasant and potentially dangerous way of dealing with interference problems.

If the interference is being caused by spurious signals from the transmitter, these are almost certain to be harmonics rather than close-in spurious products. (This is especially true of 50MHz where the 2nd harmonic falls in the FM broadcast band.) If you're trying to suppress harmonics, a bandpass filter is quite inappropriate, and especially the type based on a single high-Q tuned circuit.

Why? Because in order to achieve worthwhile harmonic suppression, the loaded Q must be very high. Insertion losses are proportional to the ratio of (loaded Q):(unloaded Q) and will be quite significant, especially with high power. A high loaded Q and high power may also cause arcing across the tuning capacitor. What *is* the loaded Q value, anyway? It's all controlled by the placement of coupling loops, and without testgear you're working in the dark.

Also, mistuning a high-Q circuit can reflect some very nasty load mismatches back into the PA. That's where the "dangerous" part comes in. Mistuning could easily cause excessive SSB intermodulation distortion from solid-state finals, which is dangerous to your on-air reputation; and in the limit it could damage the PA (symptom: severe stabbing pains in the wallet).

If harmonics are the problem, filter out the harmonics. It may not even need a lowpass filter, because there's already one of those in the rig. Very probably, it's only only one or two harmonics that need specially-good suppression. A notch filter made from coaxial cable can easily take out the offending harmonics with very low losses and a low VSWR on the fundamental frequency. G4SWX has published some "KISS" designs in recent issues of 'Radio Communication' (RSGB) which are very simple to build - just a few pieces of coax teed together.

If it's a receiver problem, the way to get rid of interfering signals is to use repeater-type notch filters, which are quite broadband on the wanted frequency. A single high-Q tuned circuit is a wonderful way to see if your preamp or RF stage will oscillate!

High-Q bandpass filters were never a good idea, and the only reason they keep appearing in books and magazines is that amateur radio publishers are far too fond of recycling (the ARRL design goes back to QST for 1964, and the RSGB designs are the same era).

I can't think of any interference problem that couldn't be solved in a better way.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3126. Re: Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: mkeitz@bev.net
Message-ID: <4nfi1r$pp2@solaris.cc.vt.edu>
Source record: 105354

In article <eganger.137.0094DC4B@mindspring.com>,
eganger@mindspring.com (Ed Ganger) wrote:
>In article <4ne42c$17bk@news.doit.wisc.edu> lumkes@cae.wisc.edu (John
Lumkes) writes:
>>Hi, wondering if someone could tell me an easy way to
>>use my old ammeter (1 mA FS) to show 0-FS using only the
>>range of 11-14 volts. Is there an easy way to have the
>>scale reflect only this voltage range and not the
>>whole 0-14 volt range?
>
>Yes, Ascii schematic follows (use monospace font)
>
>
>
> (+) ---------|<|---------/\/\/\/\/\-----(meter)------- (-)
> ZD1 R1 M1
>
>ZD1 is a zener diode at approximately your low voltage
>.... 9.1 volts is quitecommon. So if you use 9.1, the meter
>will read 9.1-FS

<snip computation of resistor value>

>for casual use (ie storage battery monitoring) this is adequate,
>but realize that a zener diode is not "flat" and that the
>voltage accross it can move about 1/2 v from "just conducting"
>to FS; that is why I would use 9.1 V and throw away all readings under
>about 10-11 V.

This circuit is a good start and will do the job, I can suggest two
enhancements:

(1) Put a forward-biased regular silicon diode in series with the zener
diode (the starting voltage will increase by 0.6 to 0.7 V over the zener
voltage). This will counteract some of the variation of zener voltage with
temperature. Also it will protect the meter if the circuit is hooked up
with the wrong polarity. The regular diode will not conduct the reverse
polarity, thus the meter will stay at zero. In the basic circuit, the
zener will go into forward conduction and flow several times the full-scale
current, slamming the needle against the zero pin.

(2) Shunt some current through the zener so the zener current is higher and
thus better regulated. It would be nice to be able to make zener current
flow constantly (even when the battery voltage is less than the zener
voltage), but this would require a source of negative voltage. In order to
keep the circuit simple just hook a resistor from the zener anode to the -

battery point. Usually zeners work best with about 10mA forward current, so design the resistor so the zener current is about that at the usual voltage (12V). This modified version will use more current from the battery, so it may not be suitable for continuous monitoring. Connect the circuit to the battery through a momentary switch so current only flows while reading.

In order to get more precision, a rather advanced circuit involving a voltage regulator or reference and maybe an op-amp or two would be needed. This would have the advantage of being able to precisely set both the starting and maximum voltages though.

-Mike KD4QDM

>
>Hope this helps.
>Regards,
>Ed KB4ORA

3127. Re: capacitor value?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: kn5s@lascruces.com
Message-ID: <4nflfg$a9b@chile.lascruces.com>
Source record: 105355

daveb@ihr.mrc.ac.uk (Dave Bullock) wrote:

>I am trying to identify the value of the variable capacitor used
>in a 6metre stripline filter as depicted in ARRL handbook interferance
>section.
>The capacitor in question is a Hammarlund HF-30-X.
>I know I could build it and then tinker around with various capacitors
>to get it working but heck there must be someone out there that already
>knows the answer.
>In anticipation Dave G6UWO.

If I remember the old Hammarlund numbers correctly,
that would mean 30 mmfd.

You could try it and measure the reults. Good Luck with the filter!

73, Mark KN5S DM62

Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

3128. Re: Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: kn5s@lascruces.com
Message-ID: <4nflpe$a9b@chile.lascruces.com>
Source record: 105356

lumkes@cae.wisc.edu (John Lumkes) wrote:

>Hi, wondering if someone could tell me an easy way to
>use my old ammeter (1 mA FS) to show 0-FS using only the
>range of 11-14 volts. Is there an easy way to have the
>scale reflect only this voltage range and not the
>whole 0-14 volt range?

>Thanks, John AA9QP
>lumkes@cae.wisc.edu

An 11 volt zener diode and a 3000 ohm resistor will do it in
principle. The only trouble is that the zener is not precise. You'll
have to select from a batch of zeners, use a variable trimpot
resistor, and recalibrate the scale.

For precision, use a differential op amp.

Good Luck. Was this a class assignment?

73, Mark KN5S DM62

Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

3129. Re: TenTec 2M->6M Xvrtr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: ddenter@nortel.ca
Message-ID: <4nfnta$d5h@bcarh8ab.bnr.ca>
Source record: 105357
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4ne7hm$del@nnrp1.news.primenet.com>,
markem@primenet.com (M. Monninger) writes:
>Has anyone built the TenTec 2M-to-6M transverter? I'm thinking about buying
>one to get on 6M FM. I'd be interested in hearing opinions/experiences about
>it. If it's as good as the 20M-to-6M unit it should be worthwhile.
>

I have one, but it is currently sitting in its box on the bench
waiting to be assembled. The manual looks very thorough and
well laid out. They did have some problems sending it to me,
seems its a very popular kit, mine was backordered (but still
only took about 4 weeks to get to me).

I'm going to try to get started on it this weekend, send me a
message Tuesday if you want to know how far I got.

later,
Dean.
--
Dean Denter work -> ddenter@nortel.ca
VA3CDD play -> ddenter@magi.com
[[[[[[[[[[[[[I speak only for myself]]]]]]]]]]]]]

3130. Re: Etching piezo-ceramic with saltwater? Homebrew SAW filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: "Charles R. Patton" <patton_c@a1.wdc.com>
Message-ID: <319B84BD.897@a1.wdc.com>
Source record: 105358
Cross-posted to: sci.materials.ceramics,rec.radio.amateur.homebrew,sci.electronics.components

Scott Stephens wrote:
>
> I am looking for a cheap available etchant for PZT ceramics, the type
> used in piezoelectric buzzers and transducers, and to understand thier
> chemistry better.
>
> I found that electropolishing a brass-backed piezo-disk in salt water
> etched the crystal as well as the brass while etching in a copper
> sulfate solution does not.
>
> To etch, I tried both bleach (sodium hypochlorite) and hydrochloric
> acid seperately, with no result. When both were mixed (resulting in
> chloric acid +ClO^3?) a white precipitate (what?) formed on the
> dissolving ceramic. I assume this to be the mechanism in electrolyzing
> saltwater.
>
> Any explanations and/or ways to etch piezo disks to custom shapes for
> hacker saw-filters?

An interesting idea, but probably not possible. If it will work, all
you should have to worry about is plating and etching the electrode
structure. Remember that SAW means Surface Acoustic Wave, and the way
that is done is by using an interdigited electrode structure on the
surface to launch waves along the surface. The base piezo outside
dimensions don't mean much (other than re physical reflections from the
edges.) The important thing is the electrode spacing on the surface.
This where the next problem is. It is an acoustic wave in the material.
Figure the dimensions of a wavelength of sound in a solid at RF
frequencies. It is very small, consequently the lithography problem
pushes the state-of-the-art, in some cases they use E-beams to direct
write to make the patterns. Another problem I suspect (since I've never
made these) is that the typical piezo-buzzer is an amorphous powder that
has been pressed, sintered, and high-voltage poled across the thickness.
You could repole your electrodes on the surface by holding the voltage
on them while heating the part through the Curie temperature, but
probably more important is the fact that the basic structure is these
amorphous grains. The grains will act as a dispersive agent for the SAW
waves you create, in effect, muddying the signal. SAW devices are
single crystals, sawn from a larger boule, in the same way
semiconductors are.
A neat idea, but thought I would toss these postential problems out so
you could watch out for them if you proceed.
Charles Patton patton_c@a1.wdc.com

3131. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4nga03$dc4@crash.microserve.net>
Source record: 105359

Edward Lawrence <eal> wrote:

>I had always heard that it was lacquer vs. enamel that caused the
>wrinkle. Aooarently a mix is in the spray can. Any one know for
>sure?

I don't have a can of this paint at hand, but you should be able to
tell by the ingredients. Lacquer can be identified by the presence
of nitrocellulose.

73,
Jack WB3U

3132. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: webbte <ted.webb@columbiasc.ncr.com>
Message-ID: <DrIBwA.B2n@ncrcae.ColumbiaSC.ATTGIS.COM>
Source record: 105360

Years ago, I worked for an aircraft communications mfg and they
specified blank crinkle or wrinkle paint on all the equipment
they made. It was a special paint that was premixed and sprayed
on, then heat dried. Wish I could remember who made. It sure did
a nice job tho.

ted / AC4CS
>==========Edward Lawrence, 5/14/96==========
>
>I had always heard that it was lacquer vs. enamel that caused
>the wrinkle.
>Aooarently a mix is in the spray can. Any one know for sure?
>

3133. Re: capacitor value?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ngaf8$dc4@crash.microserve.net>
Source record: 105361

daveb@ihr.mrc.ac.uk (Dave Bullock) wrote:

>I am trying to identify the value of the variable capacitor used
>in a 6metre stripline filter as depicted in ARRL handbook
>interferance section. The capacitor in question is a Hammarlund
>HF-30-X.

This capacitor is a 30 uuF single-section. The "X" suffix designates
that it is a wide-spaced version with a 0.045" air gap.

73,
Jack WB3U

3134. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: peake@dstos3.dsto.gov.au
Message-ID: <peake.172.000E2D57@dstos3.dsto.gov.au>
Source record: 105362

.... Used pencil "lead" across two upright razors to make a "carbon"
>microphone also.

Some ingenious type also made a variable capacitor by using layers of blades. This was in a Matchbox radio. Never tried it myself but did get the detector working - 2B pencil lead seemed the best with Gillette blades. Best "cat's whisker" I ever had was one in which I made my own "crystal" of FeS.

Tell yoong people that today - and they won't believe you!

ALan

3135. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: cj@hth.com
Message-ID: <319baf36.0@news.buller.se>
Source record: 105363
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi,

First I want to thank *ALL* of you that replied either here on USENET
or via personal e-mail... And due to the positive responce I received
I've decided to continue the postings of L.O.S.A but I will only post
it if there is some new contributions since the last posting.

Also when the list grows to big I will post an pointer instead but I
don't consider the actual size (approx. 40 KB) to big so keep the
contributions coming ;-)...

Below is *SOME* of the replies I received via e-mail:

==========

From: Chris Hiner

Below is some of the replies I received via e-mail. Once again thanks
for your support ! I'm in favor of you continuing to post the list...
I'm not currently doing anything that would directly involve using a
STAMP, but it does give lots of interesting ideas....

It's rare I do hardware, but when I do, it's strange things like
monitoring lights on a phone to integrate avoice mail type application
onto a PBX that doesn't do such things...

Although, after seeing some of the things done in your list, maybe
next time I have a need for something like that, I'll use a STAMP :)

Thanks...

==========

From: Gary Coffman

I don't mind the periodic posting, but I usually just skip over
it because I've seen it before. If you'd prominently include
the last update date so I'd know when something new had been added,
it would be more useful.

Gary

==========

From: Garland@2bears.com

I encourage you to post the changes/additions to LOSA about once a month, and post a pointer to the full list (rather than the full list each time).

I don't object to your posting info on the STAMP, although, getting the same information again & again doesn't sit well. (And, frankly, LOSA is getting pretty long.)

Regards,

==========

From: Floyd Brown

I don't mind as long as you don't post the same hints, i rather enjoy them

==========

From: John Lundgren

I haven't read whatever the L.O.S.A. is, but if it is something that is a large document, then the appropriate procedure is to upload it to a FTP site and then advertise the site in the newsgroup. It's poor netiquette to make others suffer because of large posts.

==========

From: Mattias Waldau

It is a good idea to post it, it is interesting too see what people acutually build. I use a 28800 modem and have no problems loading down the news-groups I am interested of.

/mattias

==========

From: Fred Martin

The LOSA is great. Have a thick skin and keep posting.

Best,

==========

From: Greg Sturn

think the information is very worth while and I really apprecitate the STAMP info. Please keep it up!!!

==========

From: Matthew McDonald

I like reading the LOSA postings, and would be sorry to see them go. Please ignore the whiner.

==========

From: fbg@iinet.net.au

I thought it was really quite groovy, and was actually the sort of thing I would like to see more of on the group. For we folk who are toying around with the field, applications of generic parts are very enlightening.

Keep up the good work.

==========

From: Ron Majewski

Chris,

I enjoyed your posting about LOSA and look forward to seeing more in the future. Thank you.

==========

From: James P. Ryan

I missed you article. I was/am having severe news problems.
Would you be so kind as to email me a copy of the article?

Ignore the fool who wrote this note anonymously. It should be no concern of yours if he has to pay for news.

==========

From: Jeffrey Herman

What's this doing in the amateur radio groups? Why is it you folks feel you're exempt from a newsgroup's charter?

jh

==========

From: Mike Morris

Anybody who hides behind an anon remailer isn't worth listening to.

Keep it up.

==========

Once again, thanks for your support !

Best regards,

/Christer

-=-=-=

>> World Wide Web On-Line Catalog - http://www.hth.com <<
-=-=-=

3136. Re: Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4nfo33$5rt@hpcvsnz.cv.hp.com>
Source record: 105364

Ed Ganger (eganger@mindspring.com) wrote:

: for casual use (ie storage battery monitoring) this is adequate,
: but realize that a zener diode is not "flat" and that the
: voltage accross it can move about 1/2 v from "just conducting"
: to FS; that is why I would use 9.1 V and throw away all readings under
: about 10-11 V.

Ed's quite right about this. Best would be to hand-calibrate the meter, and also then realize that it won't be perfectly temperature-stable, though probably adequate. A couple other things you can do: set the mechanical "zero" on the meter so with no current it's below the scale "zero". This will throw away the readings up to that small current where the scale zero actually is. Provide a mark on the meter face where you've offset the pointer, so you can reset it there if it gets out of adjustment. Also, you can get "adjustable zeners" or shunt regulators that are set with a pair of resistors. A TL431 _might_ work, though it's really designed for more current. You could actually put in a pot to adjust the lower threshold voltage, and it's very "flat" with current. But it takes some current to bias the resistors. Actually, this could make a useful meter: linear scale from zero up to 11 volts, compressed in the first, say, 20% of the meter range, then linear expanded scale from 11 to 15 over the top 80% of the meter's range.

--
Cheers,
Tom
tomb@lsid.hp.com

3137. Palomar HF Tube Amp Quest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-16 00:00:00 UTC
From: randal.olds@channel1.com
Message-ID: <40.7446.2425@channel1.com>
Source record: 105365

GH>I've just purchased a Palomar HF Multi-Band Tube Amp at a
GH>HamFest. I can't find a model number on the unit to identify it.
GH>Palomar Electronics is no longer in business so they can't help
GH>me. Can anyone help me to identify the unit I have and a possible
GH>source for Schematics.

Yes send me an SASE..

KD8NV
---
* SLMR 2.1 * ScrewDriver antennas = BIG signal

3138. Radio electronics magazine ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: jlin@kaiwan009.kaiwan.com
Message-ID: <4nj0nt$9m9@kaiwan009.kaiwan.com>
Source record: 105279

I am looking for tel/fax number of publisher of RADIO ELECTRONICS magaine,
would appreciate if anyone could advise.

Thanks

John
--
-*

3139. Doppler PC boards - $24.95

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: Tom Lewis <ab5ck@flash.net>
Message-ID: <4nihi6$5q3@excelsior.flash.net>
Source record: 105280

>>>> SPECIAL LIMITED OFFER <<<<

AB5CK Doppler PC Boards - $24.95 (free shipping)

This high quality, professionally manufactured PC board is based
on the popular Roanoke Doppler design shown in the book entitled
"Transmitter Hunting - Radio Direction Finding Simplified".

Special features:
* On-board audio amp (used to reduce display variations).
* 16 LED display.
* Low signal level lockout circuit.
* Numerous bypass capacitors to enhance overall operation.
* Solder mask.
* Silkscreen for easy component location and assembly.

Texas residents add 7.75% sales tax.
Free shipping (to most U.S. locations).

Payment:
U.S. Postal Money Orders will receive next day shipment.
Personal checks are welcomed (requires waiting period).

Tom Lewis
AB5CK Dopplers
6721 Rolling Hills Drive
N. Richland Hills, TX. 76180
Internet: ab5ck@flash.net
Phone: 817-428-8200

3140. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: donrm@sr.hp.com
Message-ID: <4nil68$vr@canyon.sr.hp.com>
Source record: 105281

Rod C. Johnson (rjohns@eexi.gr) wrote:

> I'm a chemist by training and the idea of a 'solution' detector really
> intrigues me. Any idea where I could find more information???

Seems to me it was a sharpened platinum point barely dipped into a tiny
cup of sulphuric acid. Don't recall the acidic molar strength or what
the metal was to complete the circuit thru the acid. Would assume it
was Pt also to keep from making a cell.

Don K6LTS
donrm@sr.hp.com

3141. Re: Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: Chuck@home.hsix.COM
Message-ID: <682@ham.hsix.com>
Source record: 105282

> From: lumkes@cae.wisc.edu (John Lumkes)
> Subject: Voltmeter using ammeter?
>
> Hi, wondering if someone could tell me an easy way to
> use my old ammeter (1 mA FS) to show 0-FS using only the
> range of 11-14 volts. Is there an easy way to have the
> scale reflect only this voltage range and not the
> whole 0-14 volt range?
>
> Thanks, John AA9QP
> lumkes@cae.wisc.edu

For a simple solution, try an low power 11 volt zener diode and resistor in series with the ammeter. The resistor value is chosen so that the total series resistance of the resistor and the meter coil resistance is equal to 3000 ohms (14-11/.001). Consider that the input resistance of this meter circuit is relatively low so that the voltage source you are measuring should have a very low output resistance (such as in DC power supply) if reasonable accuracy is to be had. Otherwise you could make the resistor variable to accommodate a higher, but less than 3000 ohms, source resistance if the meter is to be used in a dedicated application.

I once saw an elegant (and more accurate) solution to making an "expanded scale voltmeter" such as this using a three terminal voltage regulator IC, but the schematic escapes my memory.

73 de Chuck, N2UCN
amprnet: n2ucn@wa2soc.ampr.org internet: n2ucn@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

3142. ARRL synch. detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <4nih5k$3d5@news.accent.net>
Source record: 105283

Hi all,

I am looking forward to build the AM synchronous detector (ARRL '96 Handbook, chap. 15 pp. 32-35) for my SW radio. I'm presently in the process of gathering the components and also looking for more infos as the the article itself is a bit short on this side.

Has anyone tried this project? Did it work as it should?

Are there any errors in the circuit schematic (fig 15.49)?
I'm aware there are many in the layout one (fig 15.50).

Some of the capacitors are marked as C0G type (ex. 1000p/C0G).
(0= zero)
Can anybody explain what's C0G. Would normal ceramic do the job OK?

The article suggest that the a.f out of this detector be reinjected in audio chain of the radio. I would prefer to follow it into a separate audio amp built around an LM 386 (or alike) circuit I would provide. Any wrong doing going this way?

COMPONENTS

There are 2 components I'll have a hard time to find here in Montreal.

1- L1 - Toko RWRS-T-1019Z: 220uH (nom.) VARIABLE inductor.
2- T1 - FT-37-77 Amidon toroidal ferite core; .375" (Normal supplier is out of stock)

Minimum order and/or relative high shipping cost kinda deters me to mail order them. If anyone had any of these parts in excess in its junk box, I'll gladly buy them (again paying shipping cost).
N.B. In the case of the variable inductor, an equivalent part of about the same size and Q would be OK.
Again please email before.

All suggestions will be welcome. Thanks for any help,

Hugues Caron

3143. GE MPS PROGRAMMING WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: sidener@munch.nuc.umr.edu
Message-ID: <4ngmk7$n9m@hptemp1.cc.umr.edu>
Source record: 105366

Hi,

I am looking for either a cable, schematic, software, instructions
or all of the above in order to be able to program my GE MPS handheld
radio.

Does anyone have any suggestions on how to get the equipment to do this?

I would really appreciate any comments.

Thanks,

Scott Sidener N0WFL

sidener@umr.edu

3144. Re: UHF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: Gerhard Hoffmann <ghf@berlin.snafu.de>
Message-ID: <4ngmgf$ltf@unlisys.unlisys.net>
Source record: 105367

hjohnson@pluto.njcc.com (Herbert R Johnson) wrote:
>
> I'm building a radio telescope at 400 MHz. One of the problems I have is
> trying to tune it and balance it. Seems hard to find used gear that will
> work at 400 (not 440!) MHz. Most dip meters are lower - 200 MHz or less.
...
> Does anyone challenge the above statements? And can they offer a
> semiconductor alternative that would work as well? (Short of buying some
> umteen $$$$ piece of equipment.)

In the first DUBUS technical book there are at least 2 dip meters
that fit your bill.

The first is a superregenerative dip meter that covers 200-500 MHz
and uses a BF245A JFET + 2 * 2n2222 or similar.

The other one is more comfortable and has ranges from
270-560 MHz
530-940 MHz and
900-1420 MHz.

It uses bipolar transistors and varicaps.
The book is from June 1978 and bi-lingual german/english.

DUBUS is published 4 times a year and distributed worldwide.
It is a communication medium for hams made by hams.
The books are collections of the technical articles of several
years. I think there are 4 books upto now. You'll find a lot of
interesting things such as antennas and antenna mounts, low loise
preamps and other stuff used by hams for earth-moon-earth on 432 MHz.

The contact person in the US is:

Russel L. Miller, N7ART
12041 S.W. Peninsula Drive
Crooked River Ranch, OR 97760

I hope this helps,

Gerhard DK4XP

3145. How to Optimize Quads?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: Brian Webb <102670.1206@CompuServe.COM>
Message-ID: <4nh056$p1b$1@mhafc.production.compuserve.com>
Source record: 105368
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Im looking for accurate information on how to optimize
VHF/UHF quad antennas (element lengths, tapering, spacing, etc).

I already know how to build quads.....now I want to build the
best possible quads.

Regards,

Brian Webb, KD6NRP

3146. Anyone ever hear of a TAD M8?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: hturn@pelican.davlin.net
Message-ID: <319c2073.5376151@news.davlin.net>
Source record: 105369
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Anyone ever hear of a commercial radio a TAD M8?
It is a VHF high commercial rig.

Specifically I would like the microphone pinout.
Can anyone help?

Thanks
Hank

3147. Tube amp b+ slow ramp up ...any suggestions? Please?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: MattZ@pond.com
Message-ID: <4ni42l$92c_002@vf.pond.com>
Source record: 105370

Well I have a few confilcting idea about what to do... I am rebuilding a small amp that I would like to slowly ramp up the b+ .... I could use a 5ar4 rect. to do a slow ramp up, but I would like to put some silicon devices in there.. there is no place to mount a switch, so that idea is out.. I was just wondering if anyone had any ideas on the subject?!?!
z

Warning---- These ideas or thoughts have been provided to you for entertainment uses only....The use of these idea's can be dangerous if used improperly! Always use proper safety precautions when handling these thoughts or ideas...The prior thoughts are fictional in nature...Any event that may happen after use of such ideas or thoughts is purely coincidental and the thoughts or ideas conveyed here by the author or anyone consciously or unconsciously working with the author can not be held responsible or irresponsible if said ideas are used or not used consciously or unconsciously..Due t o a dearth of original ideas this disclaimer is required
Use Caution when using any of the prior ideas!

--- "One Hundred Million Volts", he declared "Were Perfectly practicable"
Nikola Tesla 1899

--- "Why does my Cat Lick my Toes? or for that matter why does it lick my leather shoes?"
MattZ 1996

3148. ??? Anyone know how to turn 12vdc to +12v 0v -12v ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: Joff <Me@somewhere.net>
Message-ID: <319CE4FE.5B52@somewhere.net>
Source record: 105371

Hi,
I am looking for a way to convert a 12vdc supply to
+12v 0v -12v. I saw a simple circuit somewhere that does this
but can't remember where! If you know how, please could you
email me. Thanks.

+---+
| _ _ _ __ __ |
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/ ___ \	|_|	|_|	__/ _| _|		__/ |_| __ \
/_/ _(_)___(_)___/ ___	_		_		_	___	__,	___/
	___/
sis5322@pbs5.milton.port.ac.uk
sis5322@alpha2.iso.port.ac.uk
+---+

3149. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: rjohns@eexi.gr
Message-ID: <4nhh92$kgs@info.forthnet.gr>
Source record: 105372

Tfugate@pop.uky.edu (Terry Fugate) wrote:

>Boy does this take me back. In the third grade, about 1960, a friend had
>an old Boys Life (the Boy Scouts of America Magazine). There was a
>artical on a crystal-less radio. It used a blued razor blade as the
>detector. We built two, using broomstick as the coil form, a 50' "long
>wire" and split a WWII headset. The head set had a pair of magnetic
>"cans", and I think they were about 2000ohms. Later dad order a crystal
>earphone (from Burnstien And Applebe <spelling?>). The crystal earphone
>worked much better than the magnetic earphone.
>I think the the blue blades where "blued" with selenium. And that is how
>the detector worked. We use Gillette (again spelling) blades, but I have
>not seen any "stand alone" razor blades in years (or really decades).
>I still have the crystal earpiece, and have built a crystal radio(with
>a torroid and using a "hot carrier" diode as the detector) But, I have
>often thought of the old blue razor blade radio. My wife and a few
>friends thought me "kind of touched" when I mentioned this method of
>detection. You can also build a liquid detector, but I have forgotten
>the chemicals/electrodes that we used. We use a bent saftey pin not a
>pencil. I suspect that during WWI(the period that they did this, I
>think) they used read lead. But I am not sure.
>Good luck

Its your fault!!! I thought I got crystal radios outta my system last year after my umpteenth attempt to build one failed. Now I read about chemical detectors and you got me started thinking about winding wire and scrounging for earphones.

I'm a chemist by training and the idea of a 'solution' detector really intrigues me. Any idea where I could find more information???

Rod

3150. Tube in RF Probe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: gary.j.tennyson@bridge.bst.bls.com
Message-ID: <NEWTNews.832342633.17443.Gary@Techstds.al.bst.bls.com>
Source record: 105373

HI,

I just bought an HP 410C Electronic Voltmeter at a hamfest. It turns out that the RF probe has a small, unusual looking rectifier tube (valve) in it. Although everything seems to work, I was wondering where I might find a replacement for the tube if it ever fails.

It is marked as an 'EA53'.

Thanks

Gary Tennyson
K04CY
gary.j.tennyson@bridge.bst.bls.com

3151. Re: UHF "grid" dip meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4nihb9$drn@orange.iap.net.au>
Source record: 105374

hjohnson@pluto.njcc.com (Herbert R Johnson) wrote:

>I'm building a radio telescope at 400 MHz. One of the problems I have is
>trying to tune it and balance it. Seems hard to find used gear that will
>work at 400 (not 440!) MHz. Most dip meters are lower - 200 MHz or less.
>In an older ARRL Handbook, I found a grid dip meter using a Nuvistor - 6CW4 -
>circuit good to several hundred MHz. It's interesting that it's hard to
>beat a vacuum tube for low input capacitance. The 6CW4 boasts a fraction of
>a pf for grid capacitance. This appears to keep the loading down on the
>resonant circuit and thus increases its sensitivity. So, a ham friend of
>mine is preparing to build it. I'm a digital EE so this UHF stuff is a bit
>out of my league - but it's a learning experience!

>Does anyone challenge the above statements? And can they offer a
>semiconductor alternative that would work as well? (Short of buying some
>umteen $$$$ piece of equipment.)

>Herbert R. Johnson voice/FAX 609-771-1503 day/nite
>hjohnson@pluto.njcc.com Ewing, NJ (near Princeton) USA

> occasional amateur astronomer at odd frequencies and hours
> and senior engineer at Astro Imaging Systems: old photons to new bits!

6CW4's are going to be fun to find anywhere. High input impedance?
Why? If the Q of the whole system is too sharp, you might possibly
miss the dip. Go for a vhf (or in this case) or uhf MOSFET.

Uncle Brian VK6BQN

3152. WANTED: Data Transmitter Recommendations:

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4nihpo$i4n@newsbf02.news.aol.com>
Source record: 105375

I am looking for a off-the-shelf, transmitter and receiver boards for integration into a project Im working on, to replace the boards I presently use. The idea is to transmit small packets of data (a dozen bytes or so).

Requirements:

1) Must be cheap -- as cheap as possible. The boards Im trying to replace run about 10 bucks a piece.
2) Must be low power. The boards Im replacing are 5v at 1.4 mA
3) I must be able to key the transmitter with an I/O pin from a microcontroller.
4) The board should already be FCC approved.
5) Range? Up to 100 feet.

If you can direct me to a manufacturer, or better yet, a specific product, I would be overjoyed. Please email any response. Pete.

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

3153. Re: CB vs Marine VHF for mountain lakes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <319CD446.2C5D@arrl.org>
Source record: 105376

Jim Devenport WB5AOX wrote:
>
> My experience in this area is that there is little, if any, "bending" at
> any frequency above say 1.8 MHZ. Radio waves travel mostly in straight
> lines except in the case of high or VHF signals which tend to "bounce"

I've talked to an EE professor who claimed that he has seen ships
on the Great Lakes far beyond normal LOS--optical ducting over
water.

The RSGB Microwave Handbook, volume I, talks about "evaporation
ducting"

Zack Lau KH6CP/1

3154. Re: TenTec 2M->6M Xvrtr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: johnoz@indy.net
Message-ID: <4ni81k$apl@news.indy.net>
Source record: 105377
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4ne7hm$del@nnrp1.news.primenet.com>,
markem@primenet.com (M. Monninger) wrote:
>Has anyone built the TenTec 2M-to-6M transverter? I'm thinking about buying
>one to get on 6M FM. I'd be interested in hearing opinions/experiences about
>it. If it's as good as the 20M-to-6M unit it should be worthwhile.
>
>Tks & 73.... Mark AA7TA

I recently built one and am quite satisfied with it. My power meter indicates
12W into dummy load on FM. Phone help is good, I stupidly installed GASFET
upside down, Tenn TEC sent new one free of charge. Did take me quite a bit
more time to assemble than I expected. If you're short on time the assembled
price represents good value.

John O. KB9MIE.

3155. Source for homebrew receiver crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-17 00:00:00 UTC
From: rqerce@hercules.lerc.nasa.gov
Message-ID: <4ni8lr$d82@sulawesi.lerc.nasa.gov>
Source record: 105378

I've decided to play around homebrewing double & triple conversion receivers in the upper VHF, lower UHF regions and need a source for ones and twoes of those really oddball crystals needed to work in that area. I don't see them in the usual sources, Digikey, Mouser, Newark, etc.

I guess I'm looking for that enthusiast who is selling them out of their basement.

Any leads?

Regards,
Dave rqerce@hercules.lerc.nasa.gov

3156. Re: Tube amp b+ slow ramp up ...any suggestions? Please?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: frello@prairie.lakes.com
Message-ID: <4njeh5$13h@News2.Lakes.com>
Source record: 105284

MattZ@pond.com (BadB) wrote:

>Well I have a few confilcting idea about what to do... I am rebuilding a small
>amp that I would like to slowly ramp up the b+ .... I could use a 5ar4 rect.
>to do a slow ramp up, but I would like to put some silicon devices in there..
>there is no place to mount a switch, so that idea is out.. I was just
>wondering if anyone had any ideas on the subject?!?!
>z

>--
>Warning---- These ideas or thoughts have been provided to you for entertainment uses
>only....The use of these idea's can be dangerous if used improperly! Always use proper
safety precautions when handling these thoughts or ideas...The prior thoughts are
fictional in nature...Any event that may happen after use of such ideas or thoughts is
purely coincidental and the thoughts or ideas conveyed here by the author or anyone
consciously or unconsciously working with the author can not be held responsible or
irresponsible if said ideas are used or not used consciously or unconsciously..Due t
>o a dearth of original ideas this disclaimer is required
>Use Caution when using any of the prior ideas!

>--- "One Hundred Million Volts", he declared "Were Perfectly practicable"
>Nikola Tesla 1899

>--- "Why does my Cat Lick my Toes? or for that matter why does it lick my leather shoes?"
>MattZ 1996
>---

You didn't provide enough information for me to suggest a specific
component but if you can get hold of a Digi-Key (a Minnesota component
supplier) catalog you can find Keystone Carbon Company Inrush Current
Protectors which are negative coefficient thermistors. They are
inexpensive too.

best of luck
Frank, KG0FC/G8CJ

3157. TMS320C30 assembler/compiler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: sshumway@ix.netcom.com
Message-ID: <4njjkc$qe5@sjx-ixn5.ix.netcom.com>
Source record: 105285

Hello,

I'm looking for a public domain assembler and / or compiler for the Texas Instruments TMS320 DSP. I've seen references in several FAQ's on DSP's to an ftp site: schutz.ee.uts.edu.au I don't seem to be able to log on to this site (it's not there or some such stuff). Anyone got any ideas?

Thanks

Steve Shumway
N8SHP

3158. Re: How to Optimize Quads?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: doc@dxnet.com
Message-ID: <319d2fd4.9317312@news.dxnet.com>
Source record: 105286
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Here's the best way I know of!

Clark, WB6ADC has a MFJ-249 SWR Analyzer. The nice thing about this battery operated device is that it displays your antenna's specific resonant frequency direct on a 10 digit LCD display, from 1.9MHz~170MHz! No transmitting required.

We set my Quad up on a non-conductive mast and stood clear of any structures, wires and trees. In less than five minuets we had the Quad fully optimized for the input of our repeater! The Analyzer is very reasonably priced, every club should own one!

73's
Uncle T.
WA6IGJ

On 17 May 1996 04:43:18 GMT, Brian Webb <102670.1206@CompuServe.COM> wrote:
>Im looking for accurate information on how to optimize
>VHF/UHF quad antennas (element lengths, tapering, spacing, etc).
>I already know how to build quads.....now I want to build the
>best possible quads.
>Brian Webb, KD6NRP

3159. Ultimate Cordless Phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: ron2dtwo@aol.com
Message-ID: <4nkcvu$8rm@newsbf02.news.aol.com>
Source record: 105287

Has anyone tried to convert an older cellular flip phone into a cordless phone? Please advise.

Ron

3160. For Sale- Rider Manuals & SAMS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: Dave <73073.46@CompuServe.COM>
Message-ID: <4nkkvtfqt1@mhadf.production.compuserve.com>
Source record: 105288
Cross-posted to:
rec.antiques.radio+phono,rec.radio.amateur.antenna,rec.radio.amateur.homebrew,rec.radio.shortwave,rec.radio.swap

Hello Friends,

I have several Rider Perpetual troubleshooting manuals for Radio and Televisions for sale. I also have a nearly complete set of SAMS Photofact of the month series until the year 1991. This from my Father's business which I closed a few years ago. The overall condition of the Rider manuals are good, as well as most of the sams folders. If you have any interest in all or part of these sets, please respond by E-Mail to DSkalish@aol.com , OR 73073.46@compuserve.com

Thanks for your time

Dave Skalish

3161. LM-383 Amp Kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: c_sieg@conknet.com
Message-ID: <NEWTNews.29634.832419324.c_sieg@PIEXX.conknet.com>
Source record: 105289

Hi Homebrewers,
I recently ran a circuit board for a customer that included a 7 watt audio amplifier. The amplifier uses the LM-383T chip and includes the support components shown in the National data sheet. Board dimensions are ~ 2" x 2.5" and the board is double sided plated thru G-10 (high quality). If anyone is interrested in one of the extra boards the price is $7 + shipping. A complete kit, including the board all components, heat sink and connectors (pc connector and its mate) is available for $16 + shipping.

Thanks,
-Chris WA3LDI
e-mail c_sieg@conknet.com

3162. Re: Tube in RF Probe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4nkncd$bdp@newsbf02.news.aol.com>
Source record: 105290

You can get one at a flea market in an HP 410 B or HP410 BR- new price is BIG BUX! Be careful- they are hot finds (or they used to be ten years ago)- I remember folks at flea markets opening up the probes on someone's table and stealing the little tube RIGHT THERE and putting it back together w/o the tube.

If you can find a "T" for it for a 50 ohm line , U will have a GREAT "wattmeter". 136v equals 400w, for example. It will be OK thru 400 MHz or so, and will read very accurately.

Tom
VE3IEY FN14sf

3163. 4$ale - Eagle computer PHONES, working/salvage parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: morkb@ix.netcom.com
Message-ID: <4nknqk$1ja@sjx-ixn4.ix.netcom.com>
Source record: 105291
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair,misc.forsale.non-computer,rec.radio.swap

Multiple copies of "Eagle" Telephones for sale. Each can be used as-is if you have an Eagle network, or salvaged for lots of neat prototyping parts.

Just to get the ideas flowing, consider that each has:

o Epoxy encapsulated magnetic reed-switch (phone handset proximity sensor)

o 1.5" x 7" 20 push-button selector panel. Each button has two colored LEDs and room to insert a small paper label. 34-wire ribbon cable/connectors.

o 12-button high-quality feel phone pad, about 2"x 3", with 8-wire flat ribbon cable/connectors.

o 4-digit LED display, with ":" and decimals built onto the display

o Astec daughter card, 2.5"x 1.5", that appears to be the TelCo interface

o One 4-pin, and two 6-pin J connectors.

o 8 position DIP switch

o One 2" diameter, 8-ohm speaker

o Bunch of ICs: CD4081, HCF4069, 2x HCF4066, LS404CB, 2x ULN2003A, 2x ULN2032, SN75176, AMI 8948 (programmed 8048?), LM386

o 3.579575 MHz crystal

o Two 10k-ohm dial pots

o Beige enclosure. I have only a few handsets/cords. Let me know if you particularly are interestd in the handset.

I'll sell these for $22 or lower, depending on how many you want. Buyer pays UPS or USMail shipping. E-mail or call Brian, 719-472-0707 or morkb@ix.netcom.com.

3164. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: gcouger@tacoma.ceatlabs.okstate.edu
Message-ID: <4nks5j$t4u@news.cis.okstate.edu>
Source record: 105292

In article <peake.172.000E2D57@dstos3.dsto.gov.au>,
Alan Peake <peake@dstos3.dsto.gov.au> wrote:
>.... Used pencil "lead" across two upright razors to make a "carbon"
>>microphone also.
>
>Some ingenious type also made a variable capacitor by using layers of blades.
>This was in a Matchbox radio. Never tried it myself but did get the detector
>working - 2B pencil lead seemed the best with Gillette blades. Best "cat's
>whisker" I ever had was one in which I made my own "crystal" of FeS.
>
>ALan
Tell us how you make the FeS crystal please.

Gordon
Gordon Couger Senior Software Specialist
Biosystems & Agricultural Engineering Dept. Oklahoma State Univ.
114 Ag Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu

3165. Re: TenTec 2M->6M Xvrtr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: Ron Giuntini <rong@204.160.88.10>
Message-ID: <4njkge$q49@news1.slip.net>
Source record: 105293
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

As you are probably aware there is a review of the 14mhz to 50mhz xverter in the June 96 QST. I just got my issue and have not yet read it, but you may be able to get something from it that means something to you even though you are interested in the 2M version.

3166. Re: Source for homebrew receiver crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <832443721snz@lfheller.demon.co.uk>
Source record: 105294

In article <4ni8lr$d82@sulawesi.lerc.nasa.gov>
rqerce@hercules.lerc.nasa.gov "Dave Ercegovic" writes:

> I've decided to play around homebrewing double & triple conversion
> receivers in the upper VHF, lower UHF regions and need a source for
> ones and twoes of those really oddball crystals needed to work in that
> area. I don't see them in the usual sources, Digikey, Mouser, Newark,
> etc.

Getting crystals made isn't particularly expensive, here in the UK,
anyway, even as one offs. You could always use PLL synthesisers to
generate the frequencies you want, from a single crystal. It'll take
a lot longer, but will be cheaper. 8-)

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

3167. Linking repeaters Via Internet Phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-18 00:00:00 UTC
From: Dave Borchard <borc0005@gold.tc.umn.edu>
Message-ID: <319D7B0E.363B@gold.tc.umn.edu>
Source record: 105295

I would like to hear comments from anyone who has tried to link repeaters using the Internet Phone software.

Dave KY0L

3168. Re: Ultimate Cordless Phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: ecgallup@mlode.com
Message-ID: <4nm6gc$4to@news.wco.com>
Source record: 105296

In article <4nkcvu$8rm@newsbf02.news.aol.com>, ron2dtwo@aol.com (Ron2DTwo) wrote:
>Has anyone tried to convert an older cellular flip phone into a cordless
>phone? Please advise.
>
>Ron

Huh? It doesn't have a cord does it? Its a phone isn't it? Then its
a cordless phone..... :>)

3169. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: Robert Bissett <rbissett@monmouth.com>
Message-ID: <319ED1AB.7283@monmouth.com>
Source record: 105297

Rod C. Johnson wrote:
>
> Tfugate@pop.uky.edu (Terry Fugate) wrote:
>
> >Boy does this take me back. In the third grade, about 1960, a friend had
> >an old Boys Life (the Boy Scouts of America Magazine). There was a
> >artical on a crystal-less radio. It used a blued razor blade as the
> >detector. We built two, using broomstick as the coil form, a 50' "long
> >wire" and split a WWII headset. The head set had a pair of magnetic
> >"cans", and I think they were about 2000ohms. Later dad order a crystal
> >earphone (from Burnstien And Applebe <spelling?>). The crystal earphone
> >worked much better than the magnetic earphone.
> >I think the the blue blades where "blued" with selenium. And that is how
> >the detector worked. We use Gillette (again spelling) blades, but I have
> >not seen any "stand alone" razor blades in years (or really decades).
> >I still have the crystal earpiece, and have built a crystal radio(with
> >a torroid and using a "hot carrier" diode as the detector) But, I have
> >often thought of the old blue razor blade radio. My wife and a few
> >friends thought me "kind of touched" when I mentioned this method of
> >detection. You can also build a liquid detector, but I have forgotten
> >the chemicals/electrodes that we used. We use a bent saftey pin not a
> >pencil. I suspect that during WWI(the period that they did this, I
> >think) they used read lead. But I am not sure.
> >Good luck
>
> Its your fault!!! I thought I got crystal radios outta my system last
> year after my umpteenth attempt to build one failed. Now I read about
> chemical detectors and you got me started thinking about winding wire
> and scrounging for earphones.
>
> I'm a chemist by training and the idea of a 'solution' detector really
> intrigues me. Any idea where I could find more information???
>
> Rod

A detector is a non-linear device to rf (ac). Any electrolytic cell
is of course non-linear and can serve as a detector. When I was a
kid in New York City a friend and I made receivers using an AA cell as
the detector (25 cents for a galena crystal was a lot in 1939).
The AA cells were good enough to pull in the 50 KW AM stations
across the Hudson river . Don't know how they would work in the HF
band because when we went to HF receivers we upgraded to vacuum
tube regenerative and superregenerative types. The tubes and parts
came from junked radios. We could listen to "Short Wave"! Great stuff

for ten-year olds.

Bob ND2L
--
****
Bob Bissett rbissett@monmouth.com
****

3170. Re: Source for homebrew receiver crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: mike@sneezy.UUCP
Message-ID: <LPJ6ND1w165w@uudell.us.dell.com!sneezy>
Source record: 105298

Dave:

You can get 140 to 170 Mhz. receive crystals from Radio Shack easily for radios that use 10.7 Mhz first IF. They are even stamped with the receive frequency (146.94 Mhz.)!

These crystals are in the vicinity of 15-16 Mhz fundamental. I oscillate them third overtone at 45-48 Mhz just like RS does in their older pager radios no longer manufactured but crystals are still easily available for every frequency I have ever asked for (about 30 frequencies so far). I use a transformer link off the collector tuned to that oscillator's third harmonic that gives me the first hetrodine oscillator frequency I put into the receiver mixer.

All the Best - Mike Colley
--
Michael E. Colley ND1R (512) 837-2010
--backup#1: sneezy!ND1R@uudell.us.dell.com - or - CIS 103650,1720
--backup#2: Mike Colley Austin, Tx 78753-4325 06 or 78714-2895

| Life is like a dog-sled team. If you ain't the lead dog, |
| the scenery never changes. -- Lewis Grizzard |

3171. Re: Latest Version of Filter Design SW Available

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4nmsog$10e@clam.niwa.cri.nz>
Source record: 105299

blombard@iu.net (Bob Lombardi) wrote:

> Announcing FilDes 2.01

Nice set of tools Bob. One minor suggestion: you may want to make
mention of the fact that 1 mil = 0.001 in = 25.4 micro-meters in your
air inductor routine (for the benefit of the isometrically challenged,
like myself :-)

Wilbert ZL2BSJ

3172. RS232 -> CAT interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: jmfriedt@vaise.ens-lyon.fr
Message-ID: <4nmtse$r60@cri.ens-lyon.fr>
Source record: 105300

I recently bought a Yaesu FRG 8800. This receiver uses a
CAT plug to connect to the serial port of my PC. Is there
a way to find the Serial->CAT conversion circuit ?

Thank you, Jean-Michel FRIEDT
jmfriedt@ens-lyon.fr

--

____
Jean-Michel FRIEDT jmfriedt@ens.ens-lyon.fr
http://www.ens-lyon.fr/~jmfriedt/index.html
____

3173. Re: How to Optimize Quads?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4nn3vg$2ktm@info4.rus.uni-stuttgart.de>
Source record: 105301
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

>Clark, WB6ADC has a MFJ-249 SWR Analyzer. The nice thing about this
>battery operated device is that it displays your antenna's specific
>resonant frequency direct on a 10 digit LCD display, from
>1.9MHz~170MHz! No transmitting required.

Very well, but this does not help much to optimize the antenna.
The primary concern in an optimization is to get a good radiation
pattern for the material you invest in the antenna. Of course
a good SWR is also needed, but there are many ways to get there.

>We set my Quad up on a non-conductive mast and stood clear of any
>structures, wires and trees.

And no feed line?

>The Analyzer is
>very reasonably priced, every club should own one!

???

73, Moritz DL5UH

3174. Re: How to Optimize Quads?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4nn4cs$3jfk@info4.rus.uni-stuttgart.de>
Source record: 105302
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

>Im looking for accurate information on how to optimize
>VHF/UHF quad antennas (element lengths, tapering, spacing, etc).
>
>I already know how to build quads.....now I want to build the
>best possible quads.

Hi Brian,

Since antenna software has widely become available, VHF and UHF
Yagis have been optimized considerably. Also the NEC-2 based codes
(e.g. EZNEC) allow to determine the radiation pattern of a VHF or UHF
antenna about as accurate as professional measurements.

This will also be the best way to optimize quads, I am sure someone
has done it.

73, Moritz DL5UH

3175. Re: AM noise blanker-?possible

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4nncc3$5f@crash.microserve.net>
Source record: 105303

maildoc@iafrica.COM (Ian Kaye) wrote:

>Most modern noise blankers work on SSB and not AM

Noise blankers for SSB work by detecting and suppressing wideband
impulse noise. Ditto for AM. I don't think there's a difference
in the circuitry; what works for one should work for the other.

73,
Jack WB3U

3176. Re: TMS320C30 assembler/compiler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.145.00114B0A@mindspring.com>
Source record: 105304

In article <4njjkc$qe5@sjx-ixn5.ix.netcom.com> sshumway@ix.netcom.com (Steve Shumway)
writes:
>From: sshumway@ix.netcom.com (Steve Shumway)
>Subject: TMS320C30 assembler/compiler
>Date: 18 May 1996 04:27:56 GMT

>Hello,

>I'm looking for a public domain assembler and / or compiler for the
>Texas Instruments TMS320 DSP. I've seen references in several FAQ's on
>DSP's to an ftp site: schutz.ee.uts.edu.au I don't seem to be able to
>log on to this site (it's not there or some such stuff). Anyone got any
>ideas?

>Thanks

>Steve Shumway
>N8SHP

That assembler is for the 320c50. I have it, but it seems to need a LOT of
work. If anyone really wants it, i will put it (the zipfile) up
on my ftp :

ftp.mindspring.com /users/eganger/t320as.zip

Should be there late on sun. nite.
Regards,
Ed

3177. H A M F E S T !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: Samuel Geller <sgeller@mail.bcpl.lib.md.us>
Message-ID: <Pine.SOL.3.93.960519155525.16878C-100000@mail>
Source record: 105305

```
-----------------------------------------------------------------
| The Famous BRATS Maryland |
| |
| H A M F E S T and C O M P U T E R F E S T |
| |
| Sunday July 28, 1996 |
| |
| At the Maryland State Fairgrounds, Timonium, MD |
| (On York Road, just North of the Baltimore Beltway (695)) |
| |
| Air Conditioned Building LARGE Tailgating Area |
| |
| Plenty of Free Parking |
| Accessible to the Handicapped |
| For Information, or table reservations, call (410)467-4634 |
| OR brats@smart.net OR our home page: http://smart.net/~brats |
| |
| Talk-in on the BRATS Repeater System 147.030(+) and 224.960(-) |
-----------------------------------------------------------------
```

3178. Tube amp b+ slow ramp up ...any suggestions? Please?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: mike@sneezy.UUCP
Message-ID: <Z5y7ND2w165w@uudell.us.dell.com!sneezy>
Source record: 105306

I have to make the disclaimer here that I don't know what deleterious effects this idea might have and that I am not absolutely positutely totally sure no harm will be done. I can't forsee any harm in doing this though.

If you are going to use a tube 5AR4 rectifier, and you want the B+ to come up slowly, you might be able to bring up the filiament voltage of the 5AR4 either slowly or bring it up in two steps. This initial low filiament voltage would cause low electron emission from the 5AR4 cathode and would bring up the B+ slowly. You might get a separate 5 VAC filiament transformer and put an inrush current limiter in the primary to accomplish this.

Careful though, B+ is nasty if your body makes contact with it. Believe me! Keep your left hand in your back pocket and wear insulating shoes.

5-10 seconds low filiament shouldn't hurt the tube durning turn on because it will start from cold, but don't rely on low filiament voltage to limit the B+ for more than that. The reason is because of that old expression for power W=EI and if there is a lot of voltage drop across the tube for an extended period the excessive power dissipation and heat build-up will destroy the tube.

All the Best - Mike
--
Michael E. Colley ND1R (512) 837-2010
To e-mail me, use this! --> sneezy!ND1R@uudell.us.dell.com - or -
CIS 103650,1720 --backup#2: Mike Colley Austin, Tx 78714-2895

| Life is like a dog-sled team. If you ain't the lead dog, |
| the scenery never changes. -- Lewis Grizzard |

3179. Re: surplus stores in Boston, Philadelphia????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: yee@mipg.upenn.edu
Message-ID: <YEE.96May19195308@mipgsun.mipg.upenn.edu>
Source record: 105307
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

Here is info about Fertik's in Philadelphia. It is from Leon Fertik's business card. Note, I suspect that the telephone number listed is his home number.

1(215)455-2121
5400 Ella Street
Phila, Pa 19120

Thur 7p-9p
Sat 9a - 3p

From Skuylkill Expressway, take US 1 North Bound. When the highway turns into a regular road, make a left turn at Rising Sun avenue. Take Rising Sun Avenue past the fire company and make an immediate left. This will get you onto Summerville. Go to the end of Sumerville. This is Ella St. You should see the warehouse a little on the right.

The directions are from the picture on the back of the business card.

My info is about 2 years old but I have confirmation that Mr. Fertik is still in business from another netter.
--
| 73 de Conway Yee, N2JWQ | DON'T
| EMAIL : yee@mipg.upenn.edu | TREAD
| TELEPHONE : | ON
| FAX : | ME!

3180. Re: Tube in RF Probe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-19 00:00:00 UTC
From: nx7u@primenet.com
Message-ID: <4not6p$9b3@nnrp1.news.primenet.com>
Source record: 105308

In article <NEWTNews.832342633.17443.Gary@Techstds.al.bst.bls.com>,
gary.j.tennyson@bridge.bst.bls.com wrote:
>
>HI,
>
>I just bought an HP 410C Electronic Voltmeter at a hamfest. It turns out
>that the RF probe has a small, unusual looking rectifier tube (valve) in it.

>Although everything seems to work, I was wondering where I might find a
>replacement for the tube if it ever fails.
>
>It is marked as an 'EA53'.
>
>Thanks
>
>Gary Tennyson
>K04CY
>gary.j.tennyson@bridge.bst.bls.com
>

Yep, that's a hig-frequency rectifier diode for the meter deflection circuit.
The European replacement is an 'EA53'
The original is a 2-01C, kinda strange part number but there it is.
They vary from being expensive to impossible to find, although every once in a
while they show up for reasonable prices.

Scott Townley "When the Going gets Weird,
nx7u@primenet.com the Weird turn Pro"
-Dr. Gonzo, Sports Editor

3181. Help ==> Old Fairchil ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: fledda@airmail.net
Message-ID: <4nonqo$j0r@news-f.iadfw.net>
Source record: 105309

Hello,

I am looking for the data sheets of two old (1970 or so) digital ICs.

SL6907 (decade counter ??)

&

SL3143 (J-K FF??)

Thanks,

Francesco Ledda

PH 214-479-2751

Fax 214 -964-8585.

fledda@airmail.net

3182. Re: TMS320C30 assembler/compiler

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.146.0014594B@mindspring.com>
Source record: 105310

In article <4njjkc$qe5@sjx-ixn5.ix.netcom.com> sshumway@ix.netcom.com (Steve Shumway)
writes:
>From: sshumway@ix.netcom.com (Steve Shumway)
>Subject: TMS320C30 assembler/compiler
>Date: 18 May 1996 04:27:56 GMT

>Hello,

>I'm looking for a public domain assembler and / or compiler for the
>Texas Instruments TMS320 DSP. I've seen references in several FAQ's on
>DSP's to an ftp site: schutz.ee.uts.edu.au I don't seem to be able to
>log on to this site (it's not there or some such stuff). Anyone got any
>ideas?

>Thanks

>Steve Shumway
>N8SHP

I re-logged in =
site is "evans.ee.adfa.oz.au"
and it IS a 320c30 assembler!!!!!!!!!!
(not real obvious from the docs.)
So it's _me_ that needs lots of work!
anyway, you can get it there as "/pub/micros/tms320dsk.tar.gz"
or on my FTP as before in a ZIP file "ftp.mindspring.com"
"/users/eganger/tms320as.zip"
(it is best to go DIRECTLY there from login ---
waiting for dirlist of /users is REAL boring)
My apologies to lloyd miller, author of package.
Regards,
Ed
Regards

3183. 6 meter QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: donstone@gate.net
Message-ID: <4np905$1d0s@news.gate.net>
Source record: 105311

Does anyone make a 6-meter QRP SSB kit? If so, I'd like to review it in my CQ-VHF column. 73 Don, W6TNS

3184. Re: ARRL synch. detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: Ed Hare <ehare@arrl.org>
Message-ID: <4npopj$k02@mgate.arrl.org>
Source record: 105312

hugo@infobahnos.com (Hugues Caron) wrote:

>I am looking forward to build the AM synchronous detector (ARRL '96
>Handbook, chap. 15 pp. 32-35) for my SW radio. I'm presently in the
>process of gathering the components and also looking for more infos as
>the the article itself is a bit short on this side.

>Has anyone tried this project? Did it work as it should?

Mike Gruger, WA1SVF, is our resident expert on synch detection. He
wrote a QEX article on the subject. Contact mgruber@arrl.org.

>Are there any errors in the circuit schematic (fig 15.49)?
>I'm aware there are many in the layout one (fig 15.50).

I will see if we can locate all the errors; we would like to fix them for
the next edition. :-)

73, Ed Hare, KA1CV

3185. Re: 6 meter QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: kenny@erinet.com
Message-ID: <31a07666.7143382@news.erinet.com>
Source record: 105313

donstone@gate.net (Don Stoner) wrote:

>>Does anyone make a 6-meter QRP SSB kit? If so, I'd like to review it in my
>>CQ-VHF column. 73 Don, W6TNS
>>

I seem to remember MFJ having a 6-meter rig in a booth at the Dayton
Hamvention this past weekend. They had really small transceivers for
several different bands.

Ken Gunton WB6QWF TL Distributing - Microwave and RF Components
CAGE Code 01DH7 http://www.erinet.com/kenny/microwave.html

3186. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: "Bill C." <wrc@tir.com>
Message-ID: <31A0D281.22B@tir.com>
Source record: 105314
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Unfortunately there are people who must use long distance to access the net and I guess the poor folks on Compuserve/AOL must pay by the milli-second as well. That is still no reason to deny the rest of us the access to information that WE paid for. Keep it coming.

Bill C.

3187. Diplexer filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: tobbe@bahnhof.SE
Message-ID: <199605201818.UAA08169@sunny.bahnhof.se>
Source record: 105315

How nows about designing diplexer filters? (Or any program fixing can do this for
me?) There is a proceeding from 1987 Mid-Atlantic States VHF Conference by Mr P. Drexler, called
"The Diplexer Filter: A Method for Enhancing Double Balanced Mixer Performance", Anyone who knows
how to get my hands on that one?

73 de Tobbe, Suger Mike -land

3188. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: John Nordlie <nordlie@aero.und.nodak.edu>
Message-ID: <Pine.A32.3.90.960520135425.53890A-100000@heart.cas.und.nodak.edu>
Source record: 105316

This thread got me interested in crystal radios (again), so I
did a little snooping around the web. Folks interested in crystal
sets may want to check out the Xtal Set Society home page at:

http://www.1stnet.net/~xtalset/

They have books and collections of their newsletter that contain info
on lead pencil detectors, electrolytic detectors, air coils, ferrite
coils, etc. You can fill out a questionaire on the web site and they
will send you a free copy of their newsletter, which includes a catalog
and order form. The copy I got had an article on making a crystal
headphone by growing a Rochelle Salt crystal, cutting it into pieces,
and assembling them in a cat food can (talk about serious homebrew!).
Those without web access can contact them at:

The Xtal Set Society
PO Box 3026
St. Louis, MO 63130
(314) 725-1172

Please note: I am not a member of this society, nor am I affiliated in
any way with them or their publisher. I don't own any of their books,
and thus cannot comment on their quality or accuracy.

==
John Nordlie N0RNB University of North Dakota
#include <std.disclaimer.h> Regional Weather Information Center

C Program. "What's that?"
C Program Run. "Looks like Phil Donahue
Run, Dammit, Run! throwing up in a tuba."
-- Naked Gun 33 1/3

==

3189. Info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: shephed@gnn.com
Message-ID: <4nqp9r$r3p@news-e2c.gnn.com>
Source record: 105317

I am looking for any information on the GLB Channelizer model 400B.

73's de N8VZU

Dan Shepherd shephed@gnn.com

3190. Re: 6 meter QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: gcouger@tacoma.ceatlabs.okstate.edu
Message-ID: <4nprv1$aoi@news.cis.okstate.edu>
Source record: 105318

In article <4np905$1d0s@news.gate.net>, Don Stoner <donstone@gate.net> wrote:
>Does anyone make a 6-meter QRP SSB kit? If so, I'd like to review it in my
>CQ-VHF column. 73 Don, W6TNS
>
Ten-Tec makes a world calss one. It is a transverter that takes 20 meter input.
While not a full radio at 8 watts out it is qrp.

Gordon
AB5DG

Gordon Couger Senior Software Specialist
Biosystems & Agricultural Engineering Dept. Oklahoma State Univ.
114 Ag Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu

3191. Detection of RF arcs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <zrqOPTAvhOoxEw5u@ifwtech.demon.co.uk>
Source record: 105319
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

From G3SEK:
I'm posting this at the request of Andy Sibley, G8JFF at JET, the Joint European Torus fusion energy research project.

Please reply by e-mail direct to Andy, because his site doesn't (yet) receive this newsgroup.

****

Hi,

I'm investigating the detection of high voltage arcs in RF coaxial lines and vacuum capacitors that we use in our multi-megawatt RF facility here at JET. The aim is to improve the various protection system in use on the plant.

I've heard of a reference to work done by Collins Radio during the 1960s where they were detecting vacuum capacitors arcs in high power MF/HF broadcast transmitters by using a 300kHz resonant coil system and listening to the 'splat'!

Does anyone, particularly Stateside, have any more information or recollection on this technique?

Many thanks...Andy Sibley

Tel: +44 1235 464589
FAX: +44 1235 464848

==========
For direct E-Mail please respond to Andy.Sibley@jet.uk

==========

The above article is the personal view of the poster and should not be considered as an official comment from the JET Joint Undertaking

****
End of forwarded posting

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3192. H.V. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: ellope@shasta.com
Message-ID: <ellope.41.0007EAA3@shasta.com>
Source record: 105320

I have a H.V. transformer that is rated @ 2350 volts. The transformer however does not have a curent rating on it. Is there a way to figure out what the curent is?
Jerry

3193. Re: Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-20 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996May20.120411.100382@ucl.ac.uk>
Source record: 105321

In article 17bk@news.doit.wisc.edu, lumkes@cae.wisc.edu (John Lumkes) writes:
> Hi, wondering if someone could tell me an easy way to
> use my old ammeter (1 mA FS) to show 0-FS using only the
> range of 11-14 volts. Is there an easy way to have the
> scale reflect only this voltage range and not the
> whole 0-14 volt range?
>
> Thanks, John AA9QP
> lumkes@cae.wisc.edu
>
Yes, you need to add a series avalanche diode (usually called zener diode) of 11 V,
so that for any voltage of less than 11 V, no current flows. You then need a
resistor to limit the current to 1 mA, with the excess (11-14)=3V. So a zener
diode of 11 V in series with the meter and a 3000 Ohm resistor should do.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3194. ALINCO DJ-560 MODS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: Greg.Kendall@lcra.ORG
Message-ID: <s1a1d724.053@lcra.org>
Source record: 105229

any info on moding an alinco dj-560 ht for out of band xmit? is it internal or external (combination of buttons)? also looking for path to users manual document.

tnx de Greg

e-mail: n5lfh@inetport.com

3195. Re: Diplexer filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: Gareth Edwards <Gareth@darkblue.demon.co.uk>
Message-ID: <832707131snz@darkblue.demon.co.uk>
Source record: 105230

In article <199605201818.UAA08169@sunny.bahnhof.se>
tobbe@bahnhof.SE "Tobbe Frode SM5NPV" writes:

> How nows about designing diplexer filters? (Or any program fixing can do
> this for
> me?) There is a proceeding from 1987 Mid-Atlantic States VHF Conference by
> Mr P. Drexler, called
> "The Diplexer Filter: A Method for Enhancing Double Balanced Mixer
> Performance", Anyone who knows
> how to get my hands on that one?
>
> 73 de Tobbe, Suger Mike -land
>
>

If it's what I think it is, there's a good treatment in "Solid State
Design for the Radio Amateur" by Hayward W7ZOI and DeMaw W1FB (ARRL
1986), which is an excellent book that everyone should own.

Cheers,
Gareth
GM7WFT

--
I don't want the world; I just want your half. - TMBG

Gareth Edwards	Gareth@darkblue.demon.co.uk
Edinburgh,	Home of Edinburgh Beige Cricket Club
Scotland	PGP public key available on request

3196. WANTED: B&W 3015 coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4nt8m6$b1t@mksrv1.dseg.ti.com>
Source record: 105231

I need two, maybe three, B&W 3015 Miniductor coils for
a couple of transmitter projects I'm considering.

Anyone have these to sell me?

E-mail response to d-hemphill@ti.com

Thanks,
Dean KC5NG

3197. Re: 6 meter QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: markem@primenet.com
Message-ID: <4nu1ci$etb@nnrp1.news.primenet.com>
Source record: 105232

In article <4nrh0i$27sc@news.gate.net>, donstone@gate.net (Don Stoner) wrote:
>Thanks Gordon, but I'm looking for a transceiver rather than a transverter. The
>
>newcomer (translation- no-coder) is not likely to have an HF rig of an sort.
>I'd like to encourage them to get on six meters SSB. Regards dls
>
TenTec also sells a 2M-to-6M transverter that's all mode. Newbies might be
more likely to have a 2M all-mode than an HF rig. Just a thought.

Mark AA7TA

3198. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: peake@dstos3.dsto.gov.au
Message-ID: <peake.175.0016976E@dstos3.dsto.gov.au>
Source record: 105322

>Tell us how you make the FeS crystal please.
I think I did it in the chem lab at school but I really can't remember -
nearly 40 years ago!
Alan

3199. Re: 6 meter QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: donstone@gate.net
Message-ID: <4nrh0i$27sc@news.gate.net>
Source record: 105323

Thanks Gordon, but I'm looking for a transceiver rather than a transverter. The newcomer (translation- no-coder) is not likely to have an HF rig of an sort. I'd like to encourage them to get on six meters SSB. Regards dls

>Ten-Tec makes a world calss one. It is a transverter that takes 20 meter input.
>While not a full radio at 8 watts out it is qrp.
>
>Gordon
>AB5DG
>
>Gordon Couger Senior Software Specialist
>Biosystems & Agricultural Engineering Dept. Oklahoma State Univ.
>114 Ag Hall Stillwater, OK 74075
>gcouger@master.ceat.okstate.edu

3200. Re: CB vs Marine VHF for mountain lakes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <31A17499.5830@rcru.rl.ac.uk>
Source record: 105324

>
> Jim Devenport WB5AOX wrote:
> >
> > My experience in this area is that there is little, if any, "bending" at
> > any frequency above say 1.8 MHZ. Radio waves travel mostly in straight
> > lines except in the case of high or VHF signals which tend to "bounce"

Completely wrong. Refraction of VHF and up signals happens all the time,
typically the bending puts the radio horizon at 4/3 the distance of the
actual horizon over a smooth earth (e.g the lake). Evaporation increases
the humidity and this increases the bending.

Mike

3201. Re: H.V. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4nsteb$7e7@newsgate.sps.mot.com>
Source record: 105325

ellope@shasta.com (jerry) wrote:
>I have a H.V. transformer that is rated @ 2350 volts. The transformer however
>does not have a curent rating on it. Is there a way to figure out what the
>curent is?

The best way I've found is to load it up and monitor the secondary voltage. When it starts to sag, you've found the saturation current. If it blows up, you've found the maximum current rating of the windings. But the only high-power high-voltage DC load I've ever found was an amp and a dummy load. ;) Alternatively, you can measure the resistance of the primary and secondary and use Ohm's law, but this is highly imperfect and takes no effects of inductance or magnetic properties into account. (Hint: use a high-impedance ohmmeter.)

I've heard of people hooking HV transformers up backwards and tying the primary to a parallel set of car headlights, monitoring that current, and adding headlights until they hit saturation. A headlight burns at about 100 watts (~8 amps at 12 v).

Rule of thumb: size of a six-pack = 500 watts, size of a 12-pack = 1500 watts, too heavy to lift = 3000+ watts.

For SSB, you can get away with a remarkably small amount of iron to get a decent power level. CW, FM, and RTTY require more iron. A lot more. For dependable service and long life, you might consider getting a transformer that is marked for its ouput current. (Yeah, Peter Dahl charges an arm and a leg.)

N6OTQ

3202. Re: 6 meter QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: hbrown@ew0203.resd
Message-ID: <4nsqfa$jo5@morgan.vf.mmc.com>
Source record: 105326

MFJ has a 10 watt transceiver. Saw them at Dayton. Is frequency limited from 50.000 through 50.300 MHz. No fancy gadgets such as memories or digital readout. Looks a lot like their other single band rigs. One vendor had them for 199.99. CW is an option board.

73, Harry, W3IIT

3203. Re: Specs wanted for various parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.832694303.30249.jwicklun@mycroftxxx.halcyon.com>
Source record: 105327

> LM741 op amp
> LM1496 multiplier
> NE564 pll
> NE592 vid. amp
> ZN414Z am radio rec. ???
> MPF102 JFET
> 2N3866 xsistor
> 2N918 xsistor
>
Hi Isaac, I think that you can most of the data on these parts right off the www. I haven't taken the time to look them up myself, but most of the major manufacturers have web pages with data sheets available.

For the LM... parts try "www.nsc.com" for National Semi

For the NE... parts try "www.semiconductor.philips.com" for Philips

The transistors are probably avail from Motorola at "http://design-net.com"

73.....KI7RH (Jay)

3204. Re: H.V. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-21 00:00:00 UTC
From: Robert Morris <robrk@fyi.net>
Message-ID: <31A23017.F77@fyi.net>
Source record: 105328

Jim wrote:
>
> ellope@shasta.com (jerry) wrote:
> >I have a H.V. transformer that is rated @ 2350 volts. The transformer however
> >does not have a curent rating on it. Is there a way to figure out what the
> >curent is?
>
> The best way I've found is to load it up and monitor the secondary voltage.
> When it starts to sag, you've found the saturation current. If it blows up,
> you've found the maximum current rating of the windings. But the only high-
> power high-voltage DC load I've ever found was an amp and a dummy load. ;)
> Alternatively, you can measure the resistance of the primary and secondary
> and use Ohm's law, but this is highly imperfect and takes no effects of
> inductance or magnetic properties into account. (Hint: use a high-impedance
> ohmmeter.)
>
> I've heard of people hooking HV transformers up backwards and tying the
> primary to a parallel set of car headlights, monitoring that current, and
> adding headlights until they hit saturation. A headlight burns at about
> 100 watts (~8 amps at 12 v).
>
> Rule of thumb: size of a six-pack = 500 watts, size of a 12-pack = 1500 watts,
> too heavy to lift = 3000+ watts.
>
> For SSB, you can get away with a remarkably small amount of iron to get a decent
> power level. CW, FM, and RTTY require more iron. A lot more. For dependable
> service and long life, you might consider getting a transformer that is marked for
> its ouput current. (Yeah, Peter Dahl charges an arm and a leg.)
>
> N6OTQBill Orr's handbook --- "The Radio Handbook" speaks of weight as
to current..for amateur use. Remember you are going to get 1.4 x the
2350 as dc from the filter caps... Compare size to commercial
amps... SB220's Ameritron's etc..

3205. help with attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: Scott Macmillan <scott@golfmike.demon.co.uk>
Message-ID: <1ggYkAAbyloxEwpt@golfmike.demon.co.uk>
Source record: 105233

Hi all,
A friend of mine has just bought a Yaesu FT480. It has an output power of 10 Watts and he wants to use it to drive a transverter to operate on 6 meters.
The problem is that the max drive for the transverter is 5 Watts. He will need to put a 3 dB attenuator in the output of the radio to drop the power to 5 W.

I have found info on what values of resistors to use to make the attenuator, but what I would like to know is would EACH resistor need to be able to dissipate 5 Watts of power?

Any help/info to scott@demon.co.uk

--
Best 73's
DE Scott - GM7OMU
Glasgow, IO75tv.

3206. help with attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: Scott Macmillan <scott@golfmike.demon.co.uk>
Message-ID: <BgmZ4BAM2loxEwvM@golfmike.demon.co.uk>
Source record: 105234

Hi all,
A friend of mine has just bought a Yaesu FT480. It has an output power of 10 Watts and he wants to use it to drive a transverter to operate on 6 meters.
The problem is that the max drive for the transverter is 5 Watts. He will need to put a 3 dB attenuator in the output of the radio to drop the power to 5 W.

I have found info on what values of resistors to use to make the attenuator, but what I would like to know is would EACH resistor need to be able to dissipate 5 Watts of power?

Any help/info to scott@demon.co.uk

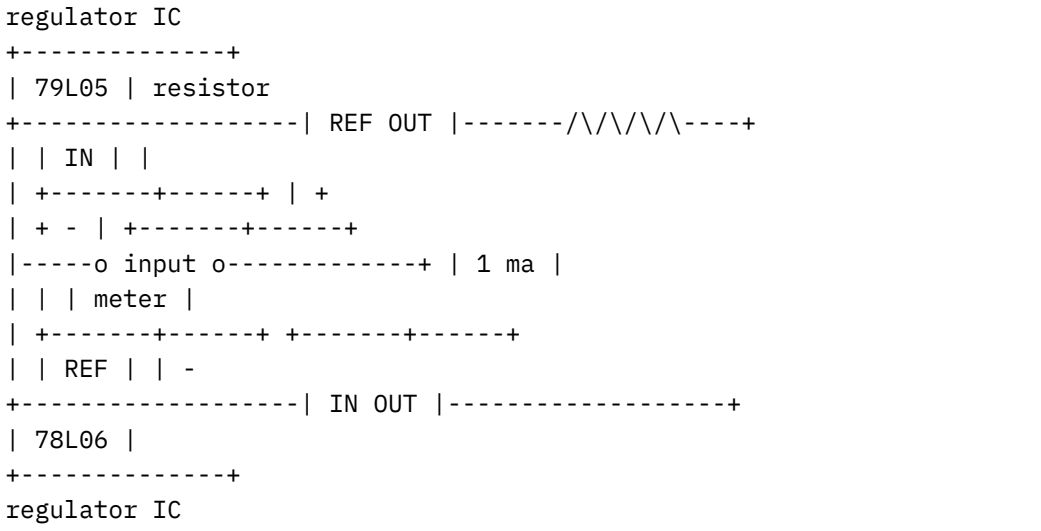
--
Best 73's
DE Scott - GM7OMU
Glasgow, IO75tv.

3207. Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: chuck@home.hsix.COM
Message-ID: <705@ham.hsix.com>
Source record: 105235

> From: lumkes@cae.wisc.edu (John Lumkes)
> Subject: Voltmeter using ammeter?
>
> Hi, wondering if someone could tell me an easy way to
> use my old ammeter (1 mA FS) to show 0-FS using only the
> range of 11-14 volts. Is there an easy way to have the
> scale reflect only this voltage range and not the
> whole 0-14 volt range?
>
> Thanks, John AA9QP
> lumkes@cae.wisc.edu

This expanded scale voltmeter doesn't require trimpots to
obtain useable accuracy or require the tedious selection of
zener diodes. This circuit consists of only three parts in
addition to your ammeter. This circuit is completely linear
and allows use of the mechanical zeroing of the meter. The
resistor is selected so that the value of the resistor plus
the resistance of the meter coil is equal to 3000 ohms
(14-11/.001). If the resistance of the meter coil is unknown,
put a 5Kohm trimpot in place of the resistor and adjust for full scale
deflection with 14 volts applied. If the voltage being
measured falls below 11 volts the output to the meter changes
polarity. Keep in mind that this circuit will present a 3 to
5 mA load to the voltage being measured.



For use with other voltages. select regulator ICs for sums
equaling the lowest voltage to be displayed (6+5=11 volts in
this case).

This circuit is taylored from the Jan 20, 1994 issue of EDN magazine,
page 73.

73 de Chuck, N2UCN
amprnet: n2ucn@wa2soc.ampr.org internet: n2ucn@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

3208. How was Dayton? Info wanted!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4nu3or$f09@news.accessone.com>
Source record: 105236
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

If you went to Dayton, could you share your stories with the rest of us. We are collecting bits and pieces from those you who've gone and putting them together for our Ham Radio Online web site. If you saw something of interest, please pass it along and we will edit into a compendium. Any new equipment? Interesting tech talks? Digital? ATV? SSTV? Microwave?

We thank you and the zillions of us who didn't make it, will thank you!

73, Ed, KF7VY

--

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

3209. Re: help with attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: raymonda@radium.Eng.Sun.COM
Message-ID: <4nu3f2$k3b@engnews2.Eng.Sun.COM>
Source record: 105237

In article 1ggYkAAbyloxEwpt@golfmike.demon.co.uk, Scott Macmillan
<scott@golfmike.demon.co.uk> writes:
>
> Hi all,
> A friend of mine has just bought a Yaesu FT480. It has an output power
> of 10 Watts and he wants to use it to drive a transverter to operate on
> 6 meters.
> The problem is that the max drive for the transverter is 5 Watts. He
> will need to put a 3 dB attenuator in the output of the radio to drop
> the power to 5 W.
>
> I have found info on what values of resistors to use to make the
> attenuator, but what I would like to know is would EACH resistor need to
> be able to dissipate 5 Watts of power?
>
> Any help/info to scott@demon.co.uk
>
>
> --
> Best 73's
> DE Scott - GM7OMU
> Glasgow, IO75tv.

Scott-

****
********** ** Desired Attenuation = 3.0 dB
CW Power Input = 40.0 dBm **
System Impedance = 50 Resistance Dissipated Pwr Use (minimum)

```
-------+----R2-----+------ R1 292.4 32.3 dBm 4-5 watts
| | R2 17.6 33.8 dBm 5 watts
in R1 R3 out R3 292.4 29.3 dBm 2 watts
| |
-------+-----------+-------
```

** **

These are the calculated dissapation values for a 3 dB PI pad
with 10watts (+40dBm) drive. You need to provide a comfortable safety
margin so you don't cook the resistors. Since the input shunt resistor will
dissipate almost 2 watts use a 4 or 5 watt part there. The series
resistor will dissipate almost 2.5 watts so use about a 5 watt part
there. The output shunt resistor will dissipate almost 1 watt so use
ar least a 2 watt part there.

Hope that helps out.

73 de WB6TPU

Ray Anderson

raymonda@radium.eng.sun.com

��

3210. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4nu20t$gca@clam.niwa.cri.nz>
Source record: 105238

jackl@pinetree.microserve.com (WB3U) wrote:

>Regardless of inductor Q, it's the voltage across the windings that
>will determine flux density. If that voltage is restrained by the
>impedance of the circuit that the inductor is installed in, the Q of
>the inductor itself (within reaason) will be of little significance.

I always thought that in inductors, it is the current that generates
the flux. As opposed to capacitors, where the voltage across the
electrodes is responsible for the electric field.

Wilbert, ZL2BSJ.

3211. Re: How to Optimize Quads?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: parf@aol.com
Message-ID: <4nu6ui$7iq@newsbf02.news.aol.com>
Source record: 105239
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Although the MFJ piece is a nice VSWR meter, aside from helping adjust for a 1:1 match, it does nothing for optimization. Field optimization is a long painstaking procedure requiring a proper range, test antenna, source and acurrate calibrated (in dB) receiver. In addition, unless the range is a slant range your efforts may be in vain.
Bob Haviland's (sp?) quad handbook is an excellent starting point. Beyond that Brian Beezley's Antenna Optimizer will allow you to "build 1000's of quads in minutes using gain, F/B and VSWR for optimization goals. Start w/ the book then enter the models into the program.

73, Dale WA2YPY

3212. Re: RS232 -> CAT interface

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: zardoz@cais2.cais.com
Message-ID: <4ntp3g$8l5@news2.cais.com>
Source record: 105240

Jean-Michel Friedt (jmfriedt@vaise.ens-lyon.fr) wrote:
: I recently bought a Yaesu FRG 8800. This receiver uses a
: CAT plug to connect to the serial port of my PC. Is there
: a way to find the Serial->CAT conversion circuit ?

: Thank you, Jean-Michel FRIEDT
: jmfriedt@ens-lyon.fr

yes there is, if you have the latest qrz! cd-rom it's on there. If not,
it should be on a number of web sites. If you want I'll see if i can
locate it and send it to you via e-mail
j

: --
: ____
: Jean-Michel FRIEDT jmfriedt@ens.ens-lyon.fr
: http://www.ens-lyon.fr/~jmfriedt/index.html
: ____

--
****

There are no poor or children in the halls of congress.
-common observation

Doing my part to piss off the christian right since 1986.
****

3213. Re: UHF "grid" dip meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: parf@aol.com
Message-ID: <4nu6v6$7j7@newsbf02.news.aol.com>
Source record: 105241

Measurements Corp model 59 and 159 goes to 400 MHz and they also made a model to 900 MHz. These meters totally blow away the Milen's, Heath etc. I guess the real question is: why do you need the grid dip meter to build the radio telescope?

Dale WA2YPY

3214. HELP-Small VHF for telemetry

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: MOTALA S&#65533;bastien <motala@worldnet.fr>
Message-ID: <31A2E9BA.709C7BB8@worldnet.fr>
Source record: 105242

Can someone help me by mailing me some schematics or plans of a small
VHF transmitter ? It is to be used for tracking a small animal.

Frequency : 144 Mhz XTAL controlled
Range : 0.5 - 1 km
Supply : 9-12 VDC

Size and weight should be as low as possible.

I would very much appreciate any help in this matter.
<A HREF="mailto:motala@worldnet.fr">mailto:motala@worldnet.fr</A>
My thanks to all those who reply !

Sebastien MOTALA.

3215. A/D Convertor for a PC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: Michael Joseph <joseph-m@capital-re.com>
Message-ID: <31A30D4A.4457@capital-re.com>
Source record: 105243

Does anyone out there know of an affordable A/D convertor board or kit for a PC.

Ideally this device would have 8 or more channels and about .01V precision

Thanks for help

MJ

3216. Re: Palomar HF Tube Amp Quest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: George Harris <103021.3555@CompuServe.COM>
Message-ID: <4nv5qc$7al$1@mhafn.production.compuserve.com>
Source record: 105244

Hi KD8NV,
Thanks for your response, but i have already gotten all the
information that I needed. Again thanks for your response.
Have a good Day!

73
George

--
Don't do anything that I wouldn't, At least don't get CAUGHT!!!!

3217. Re: How was Dayton? Info wanted!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: kenny@erinet.com
Message-ID: <31a31f29.7464561@news.erinet.com>
Source record: 105245
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc

vbook@vbook.com (Ed Mitchell) wrote:

>>If you went to Dayton, could you share your stories with the rest of us. We are
>>collecting bits and pieces from those you who've gone and putting them together
>>for our Ham Radio Online web site. If you saw something of interest, please
>>pass it along and we will edit into a compendium. Any new equipment?
>>Interesting tech talks? Digital? ATV? SSTV? Microwave?
>>
>>We thank you and the zillions of us who didn't make it, will thank you!
>>
>>73, Ed, KF7VY
>>
>>--
>>------------------------
>>Ed (KF7VY) and Kim (N7VPL) Mitchell
>>personal email to vbook@vbook.com
>>Visit Ham Radio Online, it's free! at
>>http://www.accessone.com/~vbook/hronline.htm
>>
Microwave at Dayton - definitely on the rise, and I don't mean the DSS
cheater cards, I mean real hardware. For example, one surplus dealer
had pulled an entire set of Narda directional couplers, and was
selling them for only $25.00 each! These were pulled out of almost new
equipment. He had a complete set - 1-2, 2-4, 4-8, 8-18 GHz, and had
10, 20, and 30 dB couplers in each range. These couplers looked brand
new! I sell microwave components for a living, and almost bought the
entire set from him for resale, but didn't because I only sell new
components.

In the old days, we use to speak of 1296 EME with hushed tones, as it
was some sort of black magic and was very expensive to get into. Lots
of experimentation at 10GHz and up these days. Gunnplexers were
selling like hotcakes.

in a nutshell...

Regards,

Ken Gunton WB6QWF TL Distributing - Microwave and RF Components
CAGE Code 01DH7 http://www.erinet.com/kenny/microwave.html

3218. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4nvb8q$ql8@crash.microserve.net>
Source record: 105246

wk@frc.niwa.cri.nz (Wilbert Knol) wrote:
>jackl@pinetree.microserve.com (WB3U) wrote:

>>Regardless of inductor Q, it's the voltage across the windings that
>>will determine flux density. If that voltage is restrained by the
>>impedance of the circuit that the inductor is installed in, the Q of
>>the inductor itself (within reaason) will be of little significance.

>I always thought that in inductors, it is the current that generates
>the flux. As opposed to capacitors, where the voltage across the
>electrodes is responsible for the electric field.

The variables used by the Amidon formula to calculate flux density
are the applied AC voltage, frequency, cross-sectional area of the
core and the number of turns. There are also two constants. I can
only assume that the constants eliminate the need to calculate
current flow separately. The formula is structured in such a way
that flux density is directy proportional to the applied votage,
but inversely proportional to the other three variables.

The formula is: Flux Density = (Epk x 10^2)/(4.44 x Ae x N x f),
where:
Epk = applied peak RMS volts
Ae = cross-sectional area (cm^2)
N = number of turns
f = frequency (MHz)

According to Amidon, this is applicable to both ferrite and iron
powder cores.

73,
Jack WB3U

3219. GOES Timecode receiver TrueTime Model 468-DC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: chrise@n0jcf.com
Message-ID: <4nvb2b$7at@n0jcf.com>
Source record: 105247
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

One of my Dayton souvenirs was a Kinemetrics True Time Division
Model 468-DC GOES satellite timecode receiver. I'm looking
for any information on this beast... particularly what sort
of antenna was connected to it. It appears that it might have
been some kind of active antenna that could have had an integral
downconverter.

GOES timecode is transmitted on either 468.8250 from GOES/West
or 468.8375 from GOES/East. The front panel of the receiver
has LEDs to indicate which satellite it is receiving.

The unit also has an RS232 serial port on the back which can
output the timecode to some connected serial device.

So, if anyone has any info-- schematics, user manual, command
set for the serial port, etc. I would be very interested in
hearing from you.

Thanks.

Chris
--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

3220. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4nvf3f$iob@newsbf02.news.aol.com>
Source record: 105248

In article <4nu20t$gca@clam.niwa.cri.nz>, wk@frc.niwa.cri.nz (Wilbert Knol) writes:

>I always thought that in inductors, it is the current that generates
>the flux. As opposed to capacitors, where the voltage across the
>electrodes is responsible for the electric field.
>
>Wilbert, ZL2BSJ.
>
>

That is true Wilbert, but current relates to voltage and impedance. In some cases voltage is easier to use, in some cases current is easier to use.

The problem is either related to parallel reactance and voltage, or the current. In any case, it eventually gets down to the flux density and losses.

73 Tom

3221. Re: H.V. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4nvf92$ipp@newsbf02.news.aol.com>
Source record: 105249

In article <4nsteb$7e7@newsgate.sps.mot.com>, Jim <jstrohm@texas.net>
writes:

>
>The best way I've found is to load it up and monitor the secondary
voltage.
>When it starts to sag, you've found the saturation current. If it blows
up,
>you've found the maximum current rating of the windings. But the only
high-
>power high-voltage DC load I've ever found was an amp and a dummy load.
;)
>Alternatively, you can measure the resistance of the primary and
secondary
>and use Ohm's law, but this is highly imperfect and takes no effects of
>inductance or magnetic properties into account. (Hint: use a
high-impedance
>ohmmeter.)

Load current has nothing to do with "saturation". Saturation is caused when the flux density of the core reaches its limit. It is measured by monitoring the excitation current of the primary as primary voltage (and flux density) are increased with an UNLOADED secondary. At some point the current will sharply increase, that is the point of core saturation. Operating the transformer just below this point generally provides maximum performance per pound of weight.

Ignoring the inconsequentially small core excitation losses in a well designed transformer, power loss and voltage drop is a linear function. If a properly designed transformer is operated at twice the secondary current, the heat generated (ignoring the small excitation current) and voltage drop will exactly double.

There is no such thing as secondary "current saturation" in a conventional
transformer,
losses and voltage drop increases linearly until the secondary is completely shorted or the transformer is destroyed.

The correct way to calculate the power capability is to know the core material and core size, the TOTAL resistive losses, and temperature ratings of the materials. You can approximate this from the weight and style of the core and the AC resistance calculated by loading the transformer (even with a light load) and measuring the ESR (equivalent series resistance) of the transformer.

Handbooks may help with the details of this. But if it was my transforer, I'd just look at the style and weight and compare it to other commercial designs. If it looked close, I'd just try it and see if the thing worked OK.

73 Tom

3222. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: jphipps@aztec.asu.edu
Message-ID: <4nvfl6$lj4@news.asu.edu>
Source record: 105250

In a previous article, rjohns@eexi.gr (Rod C. Johnson) says:

>
>Its your fault!!! I thought I got crystal radios outta my system last
>year after my umpteenth attempt to build one failed. Now I read about
>chemical detectors and you got me started thinking about winding wire
>and scrounging for earphones.
>
>I'm a chemist by training and the idea of a 'solution' detector really
>intrigues me. Any idea where I could find more information???
>
>Rod

I'm virtually certain that the acid used was nitric; that a small gage
Pt wire was used to barely touch the surface (when it did touch, the
wire curled up). Whether surface tension of the acid (molality unknown)
played a part I don't know. I was STRONGLY discouraged by my parents
from messing with nitric acid....Can't remember the book I read this
in, but it was ancient when I read it.

3223. Needed: FM stereo multiplex ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: mfick@engrs.unl.edu
Message-ID: <4nvj4r$7js@crcnis3.unl.edu>
Source record: 105251
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

As stated in the subject, I need to get my hands on a couple of stereo FM multiplexor chips (and their appropriate demultiplexor IC). Additional requirement: must be cheap, as these are for weather balloons that I will probably never see again after launch.

Please email me with any ideas on where I can get these chips.

--
Michael Fickenscher --
Undergraduate Student, Great wits are sure to madness near allied,
Electrical Engineering And thin partitions do their bounds divide.
University of Nebraska-Lincoln - Dryden, "Absalom and Achitophel"
-----------------------/ mfick@engrs.unl.edu /--------------------------

3224. Looking for 6mtrs circuit diagram!!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: mac@ul.ie
Message-ID: <mac.14.001296DC@ul.ie>
Source record: 105252

Hi ,
I wonder if any body would have a circuit diagram or know the where abouts of one for a 6mtrs Transverter.Maybe somebody could recommend a kit of some sort otherwise but I would grateful for the info.....

Regards Robbie EI8ESB

3225. Re: Ultimate Cordless Phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: ryan@poboxes.com
Message-ID: <4nvpim$qun@hawk.branch.com>
Source record: 105253

In article <4nkcvu$8rm@newsbf02.news.aol.com>, ron2dtwo@aol.comy says...
>
>Has anyone tried to convert an older cellular flip phone into a cordless
>phone? Please advise.
>
>Ron

Ron, I'd be interested in any info you've gotten on your phone. I've often tryed to extend the range of my cordless phone by adding a longer antenna to the phone, or hooking the base up to my CB antenna on the roof(probably not very low SWR). But not much luck. I wondered if the phone may be opened up and the wattage increased. Any suggestions?

Ryan

3226. Re: Voltmeter using ammeter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4nvrno$bau@hpcvsnz.cv.hp.com>
Source record: 105254

Charles Curtis (chuck@home.hsix.COM) wrote:

: This expanded scale voltmeter doesn't require trimpots to
: obtain useable accuracy or require the tedious selection of
: zener diodes. This circuit consists of only three parts in
: addition to your ammeter. This circuit is completely linear
: and allows use of the mechanical zeroing of the meter. The
: resistor is selected so that the value of the resistor plus
: the resistance of the meter coil is equal to 3000 ohms
: (14-11/.001). If the resistance of the meter coil is unknown,
: put a 5Kohm trimpot in place of the resistor and adjust for full scale
: deflection with 14 volts applied. If the voltage being
: measured falls below 11 volts the output to the meter changes
: polarity. Keep in mind that this circuit will present a 3 to
: 5 mA load to the voltage being measured.

```
: regulator IC
: +--------------+
: | 79L05 | resistor
: +-------------------| REF OUT |-------/\/\/\/\----+
: | | IN | |
: | +-------+------+ | +
: | + - | +-------+------+
: |-----o input o-------------+ | 1 ma |
: | | | meter |
: | +-------+------+ +-------+------+
: | | REF | | -
: +-------------------| IN OUT |-------------------+
: | 78L06 |
: +--------------+
: regulator IC
```

: For use with other voltages. select regulator ICs for sums
: equaling the lowest voltage to be displayed (6+5=11 volts in
: this case).

: This circuit is taylored from the Jan 20, 1994 issue of EDN magazine,
: page 73.

(Sorry for echoing nearly the whole posting, but it's important for
context...)

I recall seeing this ckt in EDN, and had a problem with it at the time.
It _may_ work, but it operates the regulators outside their rated
specifications. Specifically, the 79L05 will be trying to hold its OUT
at 5 volts below the (+) input, and the 78L06 will be trying to hold its

OUT at 6 volts above the (-) input. So when the input exceeds 11 volts, the 79L05 out will be more positive than the 78L06 out, and you will, supposedly, get current _out_ of the 79L05 and _into_ the 78L06. This current direction is opposite to what these parts would be delivering when used normally. If you check the spec sheets, for example from National Semiconductor, you will see they are spec'd for operation only above 1mA in the forward direction. I actually questioned Bob Pease on operating these parts below that rated current, and received a hand-written reply that said, "don't." (Or at least don't expect them to always work that way.)

It is possible to modify it to run the regulators as their spec sheets suggest, by dropping resistors from each regulator OUT to its respective REF terminal, but if you do that, the meter won't stay at (or very near) zero below 11 volts input.

Seems to me a 5% zener operated as its intended to be is better than the 4% tolerance regulators operated improperly. And the adjustable shunt regulator is even better, allowing a condensed 0-11 volt section below the expanded 11-14 volt section on the meter scale.
--
Cheers,
Tom
tomb@lsid.hp.com

3227. Wanted: Manual/schematics for Austron Loran C Freq. Mon.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: kbanke@qualcomm.com
Message-ID: <kbanke-2205961330290001@kbanke-mac.qualcomm.com>
Source record: 105255

I have an Austron Loran C Frequency Monitor Model 2001F that I would like to repair & put to use checking my home 10 MHz standard. Does anyone have a manual or schematics for this unit? - Kerry N6IZW -

3228. Re: H.V. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4nvts8$n1v@newsbf02.news.aol.com>
Source record: 105256

In article <4nvf92$ipp@newsbf02.news.aol.com>, w8jitom@aol.com (W8JI Tom) writes:

>Ignoring the inconsequentially small core excitation losses in a well
>designed transformer, power loss and voltage drop is a linear function.
If
>a properly designed transformer is operated at twice the secondary
>current, the heat generated (ignoring the small excitation current) and
>voltage drop will exactly double.
>
>

Wooops. It's I sqrd R, so the heat will quadruple....and voltage drop will double.'

Sorry about that.

Tom

3229. Re: GOES Timecode receiver TrueTime Model 468-DC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: cweddle@astro.as.arizona.edu
Message-ID: <4nvton$11j4@news.ccit.arizona.edu>
Source record: 105257
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

chrise@n0jcf.com (Chris Elmquist) writes:
>One of my Dayton souvenirs was a Kinemetrics True Time Division
>Model 468-DC GOES satellite timecode receiver. I'm looking
>for any information on this beast... particularly what sort
>of antenna was connected to it. It appears that it might have
>been some kind of active antenna that could have had an integral
>downconverter.
...deletia...
>So, if anyone has any info-- schematics, user manual, command
>set for the serial port, etc. I would be very interested in
>hearing from you.
>Chris Elmquist, N0JCF
>chrise@n0jcf.com
>n0jcf@amsat.org

Chris;
While I hve no info on this model, my employer does use this manufacturer's
WWVB models. Here's current contact info on the company, perhaps it will
be of help to you:

TrueTime, 2835 Duke Ct., Santa Rosa, CA 95407
707-528-1230
707-527-6640 fax

Have fun with it!

Chris - N7RME

3230. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4o00og$npu@newsbf02.news.aol.com>
Source record: 105258

In article <4nvb8q$ql8@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>
>The formula is: Flux Density = (Epk x 10^2)/(4.44 x Ae x N x f),
>where:
> Epk = applied peak RMS volts
> Ae = cross-sectional area (cm^2)
> N = number of turns
> f = frequency (MHz)
>
>According to Amidon, this is applicable to both ferrite and iron
>powder cores.
>
>

And if the core is non-uniform dimensionally use the minimum cross
sectional area with the above formula.

73 Tom

3231. Re: How was Dayton? Info wanted!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: tantonr@aol.com
Message-ID: <4o0and$rep@newsbf02.news.aol.com>
Source record: 105259

RE: Dayton,
Just talked to a friend who works for a retrailer set up inside (who had MULTIPLE booths with multiple tables.) He said receipts were down 60% from last year, and last year they were down 40% from the years before. Attendance seemed down- despite claims of "30,000 attendees", the aisles were not full, and only the period from 11AM sat thru 2PM sat was anywhere near busy.

Some smaller one-booth retailers were folding up early sunday AM. Conversations with other longtime vendors indicated their receipts were down similarly. An interesting sidenote was that you didn't see people walking around with big boxes with brand-new radios in them... unlike other years in the past.

My friend has been attending Dayton regularly as a ham and working with a vendor for at least 15 years, so he's seen enough to have a good frame of reference.

3232. Re: 6 meter QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-22 00:00:00 UTC
From: "Edward N. McConnell" <mccon@ro.com>
Message-ID: <31A3D7A7.20EA@ro.com>
Source record: 105260

Don Stoner wrote:
>
> Thanks Gordon, but I'm looking for a transceiver rather than a transverter. The
> newcomer (translation- no-coder) is not likely to have an HF rig of an sort.
> I'd like to encourage them to get on six meters SSB. Regards dls
>
> >Ten-Tec makes a world calss one. It is a transverter that takes 20 meter
> input.
> >While not a full radio at 8 watts out it is qrp.
> >
> >Gordon
> >AB5DG
> >
> >Gordon Couger Senior Software Specialist
> >Biosystems & Agricultural Engineering Dept. Oklahoma State Univ.
> >114 Ag Hall Stillwater, OK 74075
> >gcouger@master.ceat.okstate.edu

How about the 6M article in the QRP classic book on page 162 of the
first edition dated 1990? I know it's not a kit but it might help.

Neil, KE4GOH EM64

3233. Tempo-1 crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: ej.mars@lagn.com
Message-ID: <04320193@lagn.com>
Source record: 105179

I am looking for the following crystals for a tempo-1. I need the plug
in type:
40.5000
41.0000
41.5000
42.0000

Is it ok to use scanner crystals????

I am also looking for a way to hook up an external Siltronix VFO
to my Siltronix 1011C. There is no jack provided on the back of the
Radio. I also need an S-meter for that radio.

Please Reply

EJ@lagn.com KC5EPI

3234. Re: Looking for 6mtrs circuit diagram!!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4o2vg0$bf8@globe.indirect.com>
Source record: 105180

mac@ul.ie (MAC) wrote:

>Hi ,
> I wonder if any body would have a circuit diagram or know the where abouts
>of one for a 6mtrs Transverter.Maybe somebody could recommend a kit of some
>sort otherwise but I would grateful for the info.....

> Regards Robbie EI8ESB

For the last several years the ARRL Handbook has published a 6m
transmitting converter, which uses an MRF476 final and puts out 3-4
watts on 6M.

If you're fairly new to homebrewing, you might want to try TenTec's
kit instead. I don't know much about it; others here might offer
their opinions.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

3235. Re: HF Linear Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996May23.130927.63149@ucl.ac.uk>
Source record: 105181

In article 13B4A7EE@mail.telepac.pt, Miguel Angel Simoes Santiago
<radimprensa@mail.telepac.pt> writes:
> Anyone here has experience on building LiearAmps?
>
> What is the best:
>
> To use Lamps... or
> To use MosFets ?
>
>
> Mosfets from Motorola, bring a power of 600W from a input
> of 10W.. so how do I match my 100W output to an Amplifier based
> on this device?
>
>
> Any ideas... please give me a call..
>
>
> CT2GDD
> Miguel
A 10 dB attenuator

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3236. Need data about AMPEREX DX362 tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: pavel.reberc@guest.arnes.si
Message-ID: <4o0rkr$k2a@cmir.arnes.si>
Source record: 105261

Hello,
Can anyone help me to find some data about AMPEREX DX362 tube. I have a 2m linear amp using this tube (naigai) but no documentation... The case of the tube looks identical to 4cx250 family, but my attempt to use this tube finished loud and flashing.....
Paul, s57ra

pse EM to pavel.reberc@guest.arnes.si

3237. animal tracking transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: MOTALA S&#65533;bastien <motala@worldnet.fr>
Message-ID: <31A41DC4.7FBF582B@worldnet.fr>
Source record: 105262

I'm looking for plans/schematics of a low power small xmitter to be used
for tracking an animal (ie cat).
range 0,5-1 km
freq 531-1602 KHz / 87-108 Mhz

3238. Need UHF advice

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: Bill Meara <w.meara@codetel.net.do>
Message-ID: <4o1fqb$966@server2.codetel.net.do>
Source record: 105263

For a long time I've been building a mode B satellite station. I've been sort of using a Rube Goldberg approach: HW-101 on ten meters goes to an attenuator. RF goes up to the roof where (in a metal container I have a hamtronics transverter (28 Mhz to 435 Mhz) that feed two Ramsey Electronics bricks. The transmit antenna is a homebrew eight element Quagi fed with about 15 feet of Belden 9913.

I can't seem to get a lot of RF out of the system. I have no experience above 50 Mhz and very limited test gear. I have lots of questions:

On the transverter board, there is little audio plug (female) for the UHF out. What is the recommended way to get the RF from this plug (on the board) to the connector (I have a BNC female) on the box containing the ?

Because I didn't have anything else available, I used lengths of 9913 and (gasp!) ordinary UHF connectors to tie the transverter and the two brick together. I know that these connectors are very lossy at UHF - Would the losses be enough to cause my low RF out problem?

It is difficult for me to measure RF out, so I've been keeping an eye on DC current to the system on the roof. Judging by the increase in current when I go "key down" with the HW-101, I'm only getting a few watts out.

Any ideas/suggestions? I realize the system is far from optimal, but I just want to make a few Oscar 13 contacts before it crashes.

Thanks 73 Bill N2CQR/HI8

3239. Anyone have a Frequency Counter Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: A J Jeffreys <sis5322@pbs5.milton.port.ac.uk>
Message-ID: <31A4C865.527F@pbs5.milton.port.ac.uk>
Source record: 105264

Hi,
I'm looking for a schematic for a 1-30mhz frequency counter.
It also needs to be able to be offset by about 455khz if possible.
Does anybody have a suitable schematic or know where I can find one?
If so, please could you e-mail me.

Thanks

A J Jeffreys ------- <sis5322@pbs5.milton.port.ac.uk> -----------------

3240. animal tracking transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: ccart@mnsinc.com
Message-ID: <4o1u7i$ah@news8.erols.com>
Source record: 105265

How about some the kits that MCM has? Use one of the low power (1/4 mi?)
FM transmitters and some sort of oscillator in place of the microphone.
All this would run off of a single nine volt and you'd have your cat
tracking system for about fifteen bucks. It comes out as something like
a Mr. Microphone that's beeping all the time.

Now a decent DF antenna for the receiver is a different matter...

Good Luck,

--
-- Christopher Cartwright, Tech. Engineer | ...our chief weapons are fear,
-- Voice 301.295.0809 | fear and surprise, and nice
-- Mail dsc3cjc@imc220.med.navy.mil | red uniforms, oh damn!!
-- ccart@erols.com | -- Monty Python

3241. Re: Wanted: Manual/schematics for Austron Loran C Freq. Mon.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4o11vr$ori@news.calweb.com>
Source record: 105266

AUSTRON is located in Austin Tx. and can be reached
at 512 251 2313

I still have friends there.

Bill K7NOM

3242. Solo para EA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: Esteban Sanchis <esanchis@uv.es>
Message-ID: <4o1vs7$k7i@power.ci.uv.es>
Source record: 105267

No se si hay muchos EA leyendo esta lista, pero por si acaso alla voy:
quiero vender dos equipos de HF: un Icom IC730 y un Kenwood TS140. A buen precio
y en perfecto estado. Para mas informacion me podeis escribir a mi e-mail:
esanchis@uv.es.

Buenos DX y 73'

Esteban (EA5GMI)

3243. Help: Remote Base

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: Eric Grabowski <eric.grabowski@software.rockwell.com>
Message-ID: <31A48BB5.72D6@software.rockwell.com>
Source record: 105268

Hi All,

I'm just starting to build a remote base (29.6/UHF)using some
Motorola radios and was wondering if anyone who has already built remote
bases or repeaters might have any pointers. Does anyone know if there is
a FAQ on converting Motorola radios to the ham bands, interfacing audio
from one radio to another, performing control functions, etc? Any leads
would be appreciated.

Eric, WA8HEB
eric.grabowski@software.rockwell.com

3244. Help: Remote Base

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: Eric Grabowski <eric.grabowski@software.rockwell.com>
Message-ID: <31A49B1E.3A6B@software.rockwell.com>
Source record: 105269

Hi All,

I'm just starting to build a remote base (29.6/UHF)using some
Motorola radios and was wondering if anyone who has already built remote
bases or repeaters might have any pointers. Does anyone know if there is
a FAQ on converting Motorola radios to the ham bands, interfacing audio
from one radio to another, performing control functions, etc? Any leads
would be appreciated.

Eric, WA8HEB
eric.grabowski@software.rockwell.com

3245. Re: animal tracking transmitter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: hunter@s07.es.llnl.gov
Message-ID: <4o2cri$bdu@lll-winken.llnl.gov>
Source record: 105270

AVM has a number of animal tracking transmitters. Their phone number
is (510)449-2286.

3246. Free Beer & Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: nuos@ix.netcom.com
Message-ID: <4o29va$95e@sjx-ixn5.ix.netcom.com>
Source record: 105271

There's a new software program called "Beers of The World" that's
available at http://www.nuos.com/nuos/beer. It seems pretty complete
and has descriptions and ratings on over 1500 beers and 500 breweries.
Also, everyone who downloads it becomes automatically eligible to win
a year of free beer. Check it out.

3247. Collins flt's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: darrellk@internetland.net
Message-ID: <31a4c511.5832626@news.internetland.net>
Source record: 105272

Anyone know where I can buy Collins mechanical filters? Tnx, N1AOY
darrellk@internetland.net

3248. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: cunliffe@frontiernet.net
Message-ID: <4o2lug$fe2@cheatum.frontiernet.net>
Source record: 105273
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

danew@enterprise.net (Matthew Burnham) wrote:

>floydab@qnet.com (Floyd Brown) scribbled:
>>>>Why are you posting this crap about stamps? It costs me money
>>>>to download news and I can't pick and choose. Who the Hell asked
>>>>you to do this?
>>sounds like he needs to check at&t or some other provider if he is in the
>>US, no reason to pay by message in this day and age!!
>Don't you have phone call charges to consider???
>>

In most of the US we have unlimited local phone calls for one small
fee.
John

====================================
John R. Cunliffe N2NEP
cunliffe@frontiernet.net
http://www.frontiernet.net/~cunliffe

3249. Uniden FML600B

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: jkbruce@interlog.com
Message-ID: <4o2oul$1ql@steel.interlog.com>
Source record: 105274

Hello! Has anyone had any experiences good or bad tuning this radio into the amateur bands?

Thanks & 73's de Keith VE3JKB

3250. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: Kevin Schmidt <kschmidt>
Message-ID: <4o2pkq$1kb2@theory.tc.cornell.edu>
Source record: 105275

jackl@pinetree.microserve.com (WB3U) wrote:
>
>The variables used by the Amidon formula to calculate flux density
>are the applied AC voltage, frequency, cross-sectional area of the
>core and the number of turns. There are also two constants. I can
>only assume that the constants eliminate the need to calculate
>current flow separately. The formula is structured in such a way
>that flux density is directy proportional to the applied votage,
>but inversely proportional to the other three variables.
>
>The formula is: Flux Density = (Epk x 10^2)/(4.44 x Ae x N x f),
>where:
> Epk = applied peak RMS volts
> Ae = cross-sectional area (cm^2)
> N = number of turns
> f = frequency (MHz)
>
>According to Amidon, this is applicable to both ferrite and iron
>powder cores.
>
>73,
>Jack WB3U
>

Just to show there is no magic here, Faraday's law in SI is

Curl E = -dB/dt.

For a single frequency f this says

|Vpeak(Volts)| N = |Bpeak(Tesla)| 2 pi f(Hz) Area(meter^2)

Sticking in the conversion factors

10^6 Hz per MHz
10^4 cm^2 per meter^2
10^4 Gauss per Tesla
Vpeak = sqrt(2) Vrms = sqrt(2) Epk

Bpeak(Gauss) = 10^2 Epk/(Ae(cm^2) N f(MHz) 2 pi/sqrt(2))
and evaluating 2 pi/sqrt(2) = 4.44... which gives the Amidon formula
quoted by Jack above.

The only approximations are that the flux density is constant across
the area of the core, and that only a single frequency is present. It
therefore should work for all materials.

Note that the correct SI unit of flux density is a Tesla. Gauss are the units of flux density in the gaussian system preferred by physicists (the gaussian system also uses centimeters as the unit of length and capacitance). I am surprised that gaussian units have slipped into an engineering application.

73 Kevin w9cf@ptolemy.la.asu.edu

3251. Key belonging to owner of Vibroplex Co. stolen at Dayton

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <DrvqA3.M5n@news.hawaii.edu>
Source record: 105276

Mitch, WA4OSR, owner of Vibroplex Company, gave me permission to post the
following. Let's please get his bug returned to him.

Jeff KH2PZ

==========

From: Mitch, WA4OSR <wa4osr@cris.com>

stolen at dayton from the vibroplex booth, an elaborately engraved vibroplex
square brass racer, serial number 101000, with 'Mitch"
engraved on the top of the vertical block... the key is gold plated, and is
obviously very unique... anyone who has any information about
the key please contact me at the address below... no questions asked... i
just want my key back...
mitch
wa4osr
---------- * * * The oldest company in ham radio! * * *----------
Felton "Mitch" Mitchell The Vibroplex Co., Inc.
wa4osr@cris.com 11 Midtown Park, E.
334-478-8873, FAX 334-476-0465 Mobile, AL 36606-4141

3252. Want Source fo AD7008 DDS chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: "Jason F. Penn" <penn@mailbag.com>
Message-ID: <31A55316.2A4@mailbag.com>
Source record: 105277

Anybody know availabilty and pricing (qty 1 or 2) of the
Analog Devices AD7008 DDS chip?

73 de Jason

3253. Kenwood TS820s

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-23 00:00:00 UTC
From: ej.mars@lagn.com
Message-ID: <03220192@lagn.com>
Source record: 105278

My Kenwood TS820S is Transmitting and receiving off frequency on upper side band. The If Shift has to be 2-3 notches to the minus side to recieve Ok. The Lower side band is working find. Does anyone out there Have any Idea what could be causing this problem and what can I do about it. Please reply.

Thanks
KCPEPI
EJ@lagn.com

3254. Help With HP-432A Power Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <4o2rj2$ee@buffnet2.buffnet.net>
Source record: 105182

Greetings,

At Dayton I found a pristeen 432A power meter. Something I believe will be very usefullon the bench. Owner said it works perfectly. Well I think you know the story by now. It doesn't. I did not get the manual with it so I'm hoping someone who knows this instrument can help.

When it powers up the analog display swings full scale then returns below the zero mark. If I remove the bolometer it returns to the zero on the display. Applying power to the head causes no response (-30 - 10dbm). I suspect the head is damaged. Is that the way this instrument behaves when the bolometer gets fried ?

PS: Anybody have a good bolometer for sale ? (please don't rip me off)

Thanks

daveb

3255. First News and Photos From Dayton Hamvention!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4o3ccc$cav@news.accessone.com>
Source record: 105183
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Check out the first - first hand accounts of Dayton Hamvention and follow the
link to NF8R's online photos from Dayton!

Brought to by our free Ham Radio Online magazine web site (self funded, no ads)
at:
http://www.accessone.com/~vbook/hronline.htm

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

3256. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <4o45fb$dv9@news.scruz.net>
Source record: 105184
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4o2lug$fe2@cheatum.frontiernet.net>,
John R. Cunliffe <cunliffe@frontiernet.net> wrote:
>danew@enterprise.net (Matthew Burnham) wrote:
>
>>floydab@qnet.com (Floyd Brown) scribbled:
>>>>>Why are you posting this crap about stamps? It costs me money
>>>>>to download news and I can't pick and choose. Who the Hell asked
>>>>>you to do this?
>>>sounds like he needs to check at&t or some other provider if he is in the
>>>US, no reason to pay by message in this day and age!!
>>Don't you have phone call charges to consider???
>>
>
>In most of the US we have unlimited local phone calls for one small
>fee.
>John
>====================================
>John R. Cunliffe N2NEP
>cunliffe@frontiernet.net
>http://www.frontiernet.net/~cunliffe

Dear Floyd and QNET SysAdmins:

We have been having problems on the various sci.electronics and
related groups with Floyd here acting as though someone is wasting his
bandwidth and newsfeed talking about the Parallax BASIC STAMP
microcontroller, a perfectly normal topic for this group. We suspect
he might be a few bricks shy of a load in this respect. I even suspect
he thinks people are interjecting about "stamp collecting", i.e.,
philately!! The BASIC STAMP is a Microchip PIC-based Microcontroller,
and is appropriate for ALL the groups in HIS newsgroup line we keep
seeing! They are used by roboticists, amateur radio enthusiasts, and
all electronics technology for simple controllers!! We are TOTALLY
puzzled by his near psychotic ramblings and protests, and we ask you
to have a talk with the fellow to see if he is "assembled properly"!
Thanks a bunch, and have a nice day, you guys!
-Steve Walz rstevew@armory.com
P.S. L.O.S.A. is a mail list for stamp application technical notes,
and it is considered quite kosher to post in this neighborhood of the
UseNet.
-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew

mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com

3257. Re: Free Beer & Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <DrwHIv.7wK@news.hawaii.edu>
Source record: 105185

In article <4o29va$95e@sjx-ixn5.ix.netcom.com>, <nuos@ix.netcom.com> wrote:
>There's a new software program called "Beers of The World" that's
>available at http://www.nuos.com/nuos/beer. It seems pretty complete
>and has descriptions and ratings on over 1500 beers and 500 breweries.
>Also, everyone who downloads it becomes automatically eligible to win
>a year of free beer. Check it out.

Oh my. Very bad timing to see something like this! Here we've been arguing
for 3 weeks on .misc in favor of the name for the newly proposed group
rec.radio.amateur.boatanchors
by claiming no one misunderstands the title r.r.a.homebrew, and then
something like the above has to appear. Phooey.

Let's keep this to ourselves and not let anyone on news.groups know
about this... =:o

Jeff KH2PZ

3258. Re: Help ==> Old Fairchil ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4o478r$glq@orange.iap.net.au>
Source record: 105186

fledda@airmail.net (Francesco Ledda) wrote:

>Hello,

>I am looking for the data sheets of two old (1970 or so) digital ICs.

>SL6907 (decade counter ??)

>&

>SL3143 (J-K FF??)

>Thanks,

>Francesco Ledda

>PH 214-479-2751

>Fax 214 -964-8585.

>fledda@airmail.net

Just had a look thru my old 1969 cattledog (had to blow
the dust off of it). Nothing at all like that. You sure the first
one isn't a date code?

I worked there until 1971 - no number like that tickles
my memory.

Uncle Brian VK6BQN

3259. Re: What makes crackle(wrinkle) paint crackle (wrinkle)??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDrwo6J.GA4@netcom.com>
Source record: 105187

Edward Lawrence (eal) wrote:
: I had always heard that it was lacquer vs. enamel that caused the wrinkle.
: Aooarently a mix is in the spray can. Any one know for sure?

For the record:

Plasti-Kote Wrinkle Finish
No. 217 Black
Plasti-Kote Co. Inc.
Medina, OH 44256

You can get it at PEP Boys Automotive.

They also sell several other colors (Heath green??).

-- Thomas KI4N

3260. Tube holders

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: Walter Crauwels <walter_crauwels@qmserver.vtm.be>
Message-ID: <31A5AB28.7AB9@qmserver.vtm.be>
Source record: 105188

Hi,

I`m searching for some tube holders called BIG GIANT,
this for a tube called QB5/1750.

We are busy on an amplifier project for our Multi Multi station, and
we need about 20 holders.
Can anyone send me an email if you know some adresses to find these
holders ???

walter_crauwels@qmserver.vtm.be

3261. Re: Collins flt's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <31A5C7BE.7F42@crpl.cedar-rapids.lib.ia.us>
Source record: 105189

Darrell kimball wrote:
>
> Anyone know where I can buy Collins mechanical filters? Tnx, N1AOY
> darrellk@internetland.net

Filter Products
2990 Airway Avenue
Costa Mesa CA 92626
Fone 714-641-5311
Fax 714-641-5320
TELEX: 685532 (COLLINS CSMA)

Bill

3262. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <31A5C940.3AD8@crpl.cedar-rapids.lib.ia.us>
Source record: 105190

Kevin Schmidt wrote:

> I am surprised that gaussian units have slipped into an
> engineering application.
>

Gauss is still widely used in engineering.

Bill

3263. PA screen regulator plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <$np1RHAtIVpxEwgO@ifwtech.demon.co.uk>
Source record: 105191

Full notes, schematics and a PC layout for my upgraded G4JZQ PA screen regulator are now available via W6/PA0ZN's Web pages (http://www.nitehawk.com/rasmit/ws1_1.html - tnx Rein!).

The regulator is suitable for most kinds of tetrodes including 4CX250B/1000/1500, YL1050/52/56 etc. Output voltages can be configured to anything between about 300 and at least 600V. Voltage is regulated to a few hundred millivolts, for currents of at least +/- 50mA (configurable). Excess positive or negative screen current causes the amplifier to trip into a standby state until manually reset.

Upgrades from the basic MOSFET regulator in the DX Book include an overcurrent trip and current metering facilities (all inside the voltage regulating loop), basic T/R control and provision for positive/ negative/floating ground. The whole thing fits on half a Eurocard (about 4 x 5in).

Files available include schematics and PC layout in HPGL plotter format and as LaserJet printer files, and text in Word for Windows and ASCII. Download whatever you can read.

I'd greatly appreciate some user feedback!

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3264. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: seurer@nordruth.rchland.ibm.com
Message-ID: <4o4hv9$t1a@news.rchland.ibm.com>
Source record: 105192
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4o2k5n$p0q@news.enterprise.net>, danew@enterprise.net (Matthew Burnham)
writes:
|> Don't you have phone call charges to consider???

In the US we generally have the option of either "metered" service where
any local calls beyond a certain amount (2 hours here) per month are
charged extra or unlimited local which has a higher base rate but beyond
about 3 or so hours is cheaper than metered. Anyone who uses a modem
usually has unlimited service.
--

- Bill Seurer ID Tools and Compiler Development IBM Rochester, MN
Business: BillSeurer@vnet.ibm.com Home: BillSeurer@aol.com

3265. Need schematic for HP6220B power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: chrise@n0jcf.com
Message-ID: <4o4hk4$ceo@n0jcf.com>
Source record: 105193
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,sci.electronics

Looking for the schematic (or even better the manual) for an HP6220B
DC power supply. It's a 0-50V, .5A / 0-25V, 1A bench top supply.
It was a "good deal" at Dayton... it makes output, which is adjustable,
however the metering circuit is bonkers. The meter swings wildly from
the negative peg to the positive peg in both voltage or current modes.

I'll reimburse for any duplicating/mailing costs.

Thanks.

Chris
--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

3266. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: floydab@qnet.com
Message-ID: <4o4p3h$cb7@mandolin.qnet.com>
Source record: 105194
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4o2k5n$p0q@news.enterprise.net>, danew@enterprise.net says...
>
>floydab@qnet.com (Floyd Brown) scribbled:
>>>>Why are you posting this crap about stamps? It costs me money
>>>>to download news and I can't pick and choose. Who the Hell asked
>>>>you to do this?
>>sounds like he needs to check at&t or some other provider if he is in the
>>US, no reason to pay by message in this day and age!!
>Don't you have phone call charges to consider???
>
>
>--
>Matthew Burnham
>danew@enterprise.net
>matthewb@spuddy.mew.co.uk
>http://homepages.enterprise.net/danew
>http://ftp.enterprise.net/danew
>
>
NO, i pay a local IPS $21.95 a month for a 100 hours, and that's all i
pay,AT&t or MCI will give you unlimited time for $19.95 a month if they are
your long distance provider-- they say your local company may charge you,
but i don't see a local telephone company charging for use of an 800
number, However some people have a limit on the number of message units per
month they can use and this involes time as well, so they could run into
extra charges on their bill. so far i have not seen any on mine.i had AOL
when i started out and dumped them when i found the local IPS, Some people
in the L.A. area get it for a low as $14.00 per month.this is for the USA
and your setup would be different, but you would need to look at all the
ways you can buy the service from your telephone company(i know you only
have one)and no choice!.
--
Floyd of Fort Brown
Procrastination is my game

3267. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4o4pbo$pmk@crash.microserve.net>
Source record: 105195
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

rstevew@armory.com (Richard Steven Walz) wrote:

>We have been having problems on the various sci.electronics and
>related groups with Floyd here acting as though someone is wasting
>his bandwidth and newsfeed talking about the Parallax BASIC STAMP
>microcontroller, a perfectly normal topic for this group.

Discussions of L.O.S.A. weren't the cause of all this. It was
the (long) FAQ that brought out the flamer.

>P.S. L.O.S.A. is a mail list for stamp application technical notes,
>and it is considered quite kosher to post in this neighborhood of
>the UseNet.

The subject matter is appropriate, but there have been discussions
in the past about long posts on the Rec.Radio.Amateur newsgroups.
Because many people seem to subsscribe to these through a mailing
list, and because not everyone has a local ISP (or unlimited free
time), it was generally agreed that long files should be reserved
for FTP or Web sites. That's one reason UUE schematics and other
binaries also aren't posted to these groups.

None of this affects me personally and I certainly don't agree with
the flamer's methods. I just want to point out that it was the
length of the file, not the suitability of the topic, that initiated
this discussion. It should also be noted that of the favorable
letters the L.O.S.A. FAQ author received, most did not address this
issue. Rather, they merely stated the readers' interest in Stamps.

I think it's interesting that all of these letters, favorable or
not, were posted to USENET without permission of the various authors.
Perhaps the person posting this FAQ has a reason to do so that goes
beyond the interest of the groups?

73,
Jack WB3U

3268. Re: Help With HP-432A Power Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: Jay Wicklund <jwicklun@mail.halcyon.com>
Message-ID: <NEWTNews.832948905.5620.jwicklun@mycroftxxx.halcyon.com>
Source record: 105196

In article <4o2rj2$ee@buffnet2.buffnet.net>, <daveb@buffnet.net>
writes:

> When it powers up the analog display swings full scale then returns
> below the zero mark. If I remove the bolometer it returns to the
zero
> on the display. Applying power to the head causes no response (-30 -
> 10dbm). I suspect the head is damaged. Is that the way this
instrument
> behaves when the bolometer gets fried ?
>
> PS: Anybody have a good bolometer for sale ? (please don't rip me
off)
>
> Thanks
>
> daveb
Dave, I have a 431, not a 432, but before you leap, do a little more looking. First step might be to find someone with a similar unit and swap cables and heads to see if you can isolate the problem. Might be the cable or internal to the 432.

Second, get a manual. I was able to get a manual for my 431 for about $20 from Manual Plus in Washington state. (206)531-8031. There are several other good sources for test equipment manuals, but this is the one that I've used the most (its close to me).

Jay

3269. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: floydab@qnet.com
Message-ID: <4o4pg8$cb7@mandolin.qnet.com>
Source record: 105197
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4o45fb$dv9@news.scruz.net>, rstevew@armory.com says...
>
>In article <4o2lug$fe2@cheatum.frontiernet.net>,
>John R. Cunliffe <cunliffe@frontiernet.net> wrote:
>>danew@enterprise.net (Matthew Burnham) wrote:
>>
>>>floydab@qnet.com (Floyd Brown) scribbled:
>>>>>Why are you posting this crap about stamps? It costs me money
>>>>>to download news and I can't pick and choose. Who the Hell asked
>>>>>you to do this?
>>>>sounds like he needs to check at&t or some other provider if he is in
the
>>>>US, no reason to pay by message in this day and age!!
>>>Don't you have phone call charges to consider???
>>>>>

>UseNet.
>-Steve
>--
Now wait a minute here Steve i have no probleums with the posting of the stamp usage- you have someone mixed up with me. i even enjoy postings that have nothing to do with HA. and anything that's good for a laught.
Floyd of Fort Brown
Procrastination is my game

3270. Re: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4o4rmk$d0m@blixen.aquilagroup.com>
Source record: 105198

>The MAX232 is way to go...
>Everything in 1 package plus 5 Caps. .. KISS Keep it simple Stu

Caveat: These switched capacitor charge pump circuits require some
care in shielding, PS filtering. They can generate a fair amount of
RF hash.

-KF-

3271. Trifilar windings?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9604248329.AA832981975@mails.imed.com>
Source record: 105199

I have been doing a lot of reading lately and many transformers
including DBM transformers specify trifilar windings. Why is this?

Is it just easier to do the windings? It sure doesn't seem so to me.
I can't believe that the coupling is really that much tighter when
trifilar windings are used. It would seem that the toroid properties
give most of the coupling. But I've been wrong before once or twice.

Ray Mack
WD5IFS
mack@mails.imd.com
Friendswood (Houston), TX

3272. Re: Trifilar windings?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: Cecil Moore <kg7bk@primenet.com>
Message-ID: <4o5f1j$8f0@nnrp1.news.primenet.com>
Source record: 105200

mack@mails.imed.COM wrote:
: I have been doing a lot of reading lately and many transformers
: including DBM transformers specify trifilar windings. Why is this?

Hi Ray, to get consistant, predictable results from transmission line transformers, the windings must maintain a certain characteristic impedance. In other words, the characteristic impedance of the windings appears in the equations. Bifilar and trifilar windings allow us to calculate the characteristic impedance fairly closely.

73, Cecil, KG7BK (W6RCA soon), OOTC

3273. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <DrxLqp.DL8@news.hawaii.edu>
Source record: 105201
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Richard Steven Walz <rstevew@armory.com> wrote:
>philately!! The BASIC STAMP is a Microchip PIC-based Microcontroller,
>and is appropriate for ALL the groups in HIS newsgroup line we keep
>seeing! They are used by roboticists, amateur radio enthusiasts, and

Not ALL as you say. Are you familiar with the difference between the
two groups rec.radio.amateur.misc and r.r.a.homebrew? After you've
read the r.r.a charter then you'll understand why this topic and its
dozens of followups have no place on r.r.a.misc.

Jeff KH2PZ

3274. Re: Collins flt's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: "Edward N. McConnell" <mccon@ro.com>
Message-ID: <31A66F0D.663F@ro.com>
Source record: 105202

Darrell kimball wrote:
>
> Anyone know where I can buy Collins mechanical filters? Tnx, N1AOY
> darrellk@internetland.net

Try RT Systems in Huntsville, Al (205) 882-9292 open Saturdays till 2:00pm. Collins Mechanical filters are now being sold thru Yeasu for the FT-100MP and FT 900CAT should work for you.

Neil, KE4GOH

3275. Re: Looking for 6mtrs circuit diagram!!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: "Edward N. McConnell" <mccon@ro.com>
Message-ID: <31A66F53.2048@ro.com>
Source record: 105203

MAC wrote:
>
> Hi ,
> I wonder if any body would have a circuit diagram or know the where abouts
> of one for a 6mtrs Transverter.Maybe somebody could recommend a kit of some
> sort otherwise but I would grateful for the info.....
>
> Regards Robbie EI8ESBTry the Ten-Tec 6mtr Xvrtr kit.

3276. Re: ARRL synch. detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: Bob Liesenfeld <wb0poq@visi.com>
Message-ID: <31A5D865.3C2B@visi.com>
Source record: 105204

Hugues Caron wrote:
>
> Hi all,
>
> I am looking forward to build the AM synchronous detector (ARRL '96
> Handbook, chap. 15 pp. 32-35) for my SW radio. I'm presently in the
> process of gathering the components and also looking for more infos as
> the the article itself is a bit short on this side.
>
> Has anyone tried this project? Did it work as it should?
>
> Are there any errors in the circuit schematic (fig 15.49)?
> I'm aware there are many in the layout one (fig 15.50).
>
> Some of the capacitors are marked as C0G type (ex. 1000p/C0G).
> (0= zero)
> Can anybody explain what's C0G. Would normal ceramic do the job OK?
>
> The article suggest that the a.f out of this detector be reinjected
> in audio chain of the radio. I would prefer to follow it into a sepa-
> rate audio amp built around an LM 386 (or alike) circuit I would
> provide. Any wrong doing going this way?
>
> COMPONENTS
>
> There are 2 components I'll have a hard time to find here in Montreal.
>
> 1- L1 - Toko RWRS-T-1019Z: 220uH (nom.) VARIABLE inductor.
> 2- T1 - FT-37-77 Amidon toroidal ferite core; .375" (Normal supplier
> is out of stock)
>
> Minimum order and/or relative high shipping cost kinda deters me to
> mail order them. If anyone had any of these parts in excess in its
> junk box, I'll gladly buy them (again paying shipping cost).
> N.B. In the case of the variable inductor, an equivalent part of about
> the same size and Q would be OK.
> Again please email before.
>
> All suggestions will be welcome. Thanks for any help,
>
> Hugues Caron Hi Hugues,

C0G is similar to an NP0 rating, which means (idealy) that the
capacitance does not change over temperature. Most C0Gs I have used change a

bit, but nothing like a "plain vanilla" ceramic.
C0Gs and NP0s are generally used in oscillator circuits, and while I have not seen the article you mention, I suspect these caps are in some kind of osc.
If you use any old ceramic you may have a serious drift problem. Digi-Key in Thief River Falls MN. has a nice line of monolithic ceramic C0Gs.
Hope this helps.

Bob WB0POQ

3277. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: Kyle Crane <kvc980s@mail.anet-stl.com>
Message-ID: <31A68B69.3B75@mail.anet-stl.com>
Source record: 105205
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Just Wondering, how long is this thread going to keep going? I've seen it for close to a month now. Just curious. And yes I do know that I added one more to it.

Kyle Crane
http://webusers.anet-stl.com/~kvc980s
kvc980s@mail.anet-stl.com

3278. Need 2W Carbon Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: mai@iquest.net
Message-ID: <DrxLr1.Avp@iquest.net>
Source record: 105206

I'm in need of some carbon comp resistors; 2.2K and 2.7K ohm, 2 watts, around 200 pcs for a project.
Checking normal channels resulted in (when laughter quit) six month lead time estimated.
I'll buy odds and ends so long as their leads aren't cut. Old Stackpoles, Allen-Bradley, etc.
Email if you can help.
Thanks!

Patrick/WB9IQI

3279. Re: help with attenuator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-24 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996May24.103040.58651@ucl.ac.uk>
Source record: 105207

In article 1ggYkAAbyloxEwpt@golfmike.demon.co.uk, Scott Macmillan
<scott@golfmike.demon.co.uk> writes:
>
> Hi all,
> A friend of mine has just bought a Yaesu FT480. It has an output power
> of 10 Watts and he wants to use it to drive a transverter to operate on
> 6 meters.
> The problem is that the max drive for the transverter is 5 Watts. He
> will need to put a 3 dB attenuator in the output of the radio to drop
> the power to 5 W.
>
> I have found info on what values of resistors to use to make the
> attenuator, but what I would like to know is would EACH resistor need to
> be able to dissipate 5 Watts of power?
>
> Any help/info to scott@demon.co.uk
>
>
> --
> Best 73's
> DE Scott - GM7OMU
> Glasgow, IO75tv.
No. assume:

```
-------------R2---------
| |
10W R1 R3 5 W out.
| |
------------------------
```

Do this:
1) Find R1, R2 and R3 (R1=R3)
2) Calculate the voltage that gives 10W across 50 Ohm. This is V=sqrt(PR)=22.4V.
So there's 22.4V across R1, so R1 dissipates 22.4^2/R1
3) Do the same for R3, but it will have V=sqrt(5*50)=15.8V across it.
4) R2 dissipates 5-dissipation in R1 - dissipation in R3.

Dave Kirkby G8WRB.
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3280. RE: DIPLEXER DESIGN PROGRAM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: phil@fx.net
Message-ID: <4o5kl3$lh9@kryten.awinc.com>
Source record: 105208

```
There is a program called Universal Diplexer
in QRP HomeBuilder1.0
ftp ->
ftp.coast.net /SimTel/win3/hamradio/qrphb1.zip
```

3281. Re: Looking for 6mtrs circuit diagram!!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4o5lic$3bi@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105209

jeffd@coriolis.com (Jeff Duntemann) wrote:
>mac@ul.ie (MAC) wrote:
>
>>Hi ,
>> I wonder if any body would have a circuit diagram or know the where abouts
>>of one for a 6mtrs Transverter.Maybe somebody could recommend a kit of some
>>sort otherwise but I would grateful for the info.....
>
>> Regards Robbie EI8ESB
>
>For the last several years the ARRL Handbook has published a 6m
>transmitting converter, which uses an MRF476 final and puts out 3-4
>watts on 6M.
>
>If you're fairly new to homebrewing, you might want to try TenTec's
>kit instead. I don't know much about it; others here might offer
>their opinions.
>
>--73--
>
>--Jeff Duntemann KG7JF
> Scottsdale, Arizona
>
>
More information about the Ten-Tec kit should you need it.
Model: T-Kit # 1208 from Ten-Tec, Sevierville, TN, USA
It was reviewed in the June issue of the ARRL journal QST. Price was noted at $95 US
Woody WB4QXE 73

3282. McCoy Electronics Filter info needed!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: Spencer Petri <spetri@e-tex.com>
Message-ID: <4o67oi$653@e-tex.com>
Source record: 105210

Need any vital info on this filter. FSN 293-7321-030. P/N 2B523. The Fc is 11096 Khz. Thats all I know about it. Please E-mail direct. Thanks.

73 de Pete WA5JCI

3283. Re: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4o67rv$c79@news.onramp.net>
Source record: 105211

>care in shielding, PS filtering. They can generate a fair amount of
>RF hash.

I think it is the MAX233 (or the DS clone) that has the built in Caps
for the pump abd does not need the external ones.

3284. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <4o6b0c$lul@news.scruz.net>
Source record: 105212
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <DrxLqp.DL8@news.hawaii.edu>,
Jeffrey Herman <jherman@Hawaii.Edu> wrote:
>Richard Steven Walz <rstevew@armory.com> wrote:
>>philately!! The BASIC STAMP is a Microchip PIC-based Microcontroller,
>>and is appropriate for ALL the groups in HIS newsgroup line we keep
>>seeing! They are used by roboticists, amateur radio enthusiasts, and
>
>Not ALL as you say. Are you familiar with the difference between the
>two groups rec.radio.amateur.misc and r.r.a.homebrew? After you've
>read the r.r.a charter then you'll understand why this topic and its
>dozens of followups have no place on r.r.a.misc.
>
>Jeff KH2PZ

Well, anyway it seems I may have mis-attributed my post in this
regard, though I had thought I looked carefully, but in any case:

While some or even many radio amateurs are still in the analog dark
ages sending postcards to each other, packet radio and other digital
advances have arrived, and I know of two radio buffs myself, and THEY
use microcontrollers for their own equipment, so then, what in the
world do YOU mean by saying that a PIC STAMP list of applications is
non-relevant to amateur radio??? THEY seem to think it is QUITE
apropos, and even though I only KNOW these TWO amateurs well enough to
know, I somehow doubt that THEY wouldn't have a sense for the breadth
of that endeavor and the attitudes of OTHER folks involved in it!

So either explain your position now, or else come off of it and admit
that whoever is SPAMING the L.O.S.A posts is just a backwards
head-up-the ass son of a bitch technologically, and some kind of
vacuum loving analog throwback!! ;-) Of course I doubt you will, but
people telling the honest truth on the Net seems a bit rare anyway,
and I think you can agree about that!! ;->

-Steve FUKYU86 (I couldn't resist!)
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com

3285. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <4o6bgu$m26@news.scruz.net>
Source record: 105213
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4o4pbo$pmk@crash.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
> rstevew@armory.com (Richard Steven Walz) wrote:
>
>>We have been having problems on the various sci.electronics and
>>related groups with Floyd here acting as though someone is wasting
>>his bandwidth and newsfeed talking about the Parallax BASIC STAMP
>>microcontroller, a perfectly normal topic for this group.
>
>Discussions of L.O.S.A. weren't the cause of all this. It was
>the (long) FAQ that brought out the flamer.
>
>>P.S. L.O.S.A. is a mail list for stamp application technical notes,
>>and it is considered quite kosher to post in this neighborhood of
>>the UseNet.
>
>The subject matter is appropriate, but there have been discussions
>in the past about long posts on the Rec.Radio.Amateur newsgroups.
>Because many people seem to subsscribe to these through a mailing
>list, and because not everyone has a local ISP (or unlimited free
>time), it was generally agreed that long files should be reserved
>for FTP or Web sites. That's one reason UUE schematics and other
>binaries also aren't posted to these groups.
>
>None of this affects me personally and I certainly don't agree with
>the flamer's methods. I just want to point out that it was the
>length of the file, not the suitability of the topic, that initiated
>this discussion. It should also be noted that of the favorable
>letters the L.O.S.A. FAQ author received, most did not address this
>issue. Rather, they merely stated the readers' interest in Stamps.
>
>I think it's interesting that all of these letters, favorable or
>not, were posted to USENET without permission of the various authors.
>Perhaps the person posting this FAQ has a reason to do so that goes
>beyond the interest of the groups?
>
>73,
>Jack WB3U

And I just wished to say sorry to Floyd once again, as I went blank or
somesuch and totally mis-attributed the more strident SPAM to him, and
I have also done so in email. I am simply puzzled why people are not

availing themselves of all the local ISP's who almost invariably offer
unlimited untimed access for under $20.00 a month! Many are only $15 !!
Some associated with geek houses are honor system donations sorts
of affairs and cost little to join! There are more and more small
domains created everyday for this purpose! Just ask around and don't
let the big guys make you think they're the only show in town!
-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com

3286. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <4o6blc$m3j@news.scruz.net>
Source record: 105214
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
In article <4o4pg8$cb7@mandolin.qnet.com>,
Floyd Brown <floydab@qnet.com> wrote:
>In article <4o45fb$dv9@news.scruz.net>, rstevew@armory.com says...
>>
>>In article <4o2lug$fe2@cheatum.frontiernet.net>,
>>John R. Cunliffe <cunliffe@frontiernet.net> wrote:
>>>danew@enterprise.net (Matthew Burnham) wrote:
>>>
>>>>floydab@qnet.com (Floyd Brown) scribbled:
>>>>>Why are you posting this crap about stamps? It costs me money
>>>>>to download news and I can't pick and choose. Who the Hell asked
>>>>>you to do this?
>>>>sounds like he needs to check at&t or some other provider if he is in
>the
>>>>US, no reason to pay by message in this day and age!!
>>>>Don't you have phone call charges to consider???
>>>>>
```

>>P.S. L.O.S.A. is a mail list for stamp application technical notes,
>>and it is considered quite kosher to post in this neighborhood of the
>>UseNet.
>>-Steve
>>--
>Now wait a minute here Steve i have no probleums with the posting of the
>stamp usage- you have someone mixed up with me. i even enjoy postings that
>have nothing to do with HA. and anything that's good for a laught.
>Floyd of Fort Brown
>Procrastination is my game

And again, agreed, Floyd. I AM sorry about my mis-attribution and
flamage, and as well to your ISP whom I have written to retracting it!
My mistake!
-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com

3287. PIC repeater controller

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: Walter Crauwels <walter_crauwels@qmserver.vtm.be>
Message-ID: <31A74F58.6099@qmserver.vtm.be>
Source record: 105215

Hello All,

Does anyone use a PIC processor ex. 16C84 as a voice repeater controller
???

If so, please send me an Email

Thanks in Advance ON4BCB

3288. Re: Want Source fo AD7008 DDS chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: dave@pryon.com
Message-ID: <4o7o0u$agk@homer.alpha.net>
Source record: 105216

In article <31A55316.2A4@mailbag.com>,
"Jason F. Penn" <penn@mailbag.com> wrote:
>Anybody know availabilty and pricing (qty 1 or 2) of the
>Analog Devices AD7008 DDS chip?
>
>73 de Jason

Jason:

Analog Devices has many distributor's that handle these parts. My Future Active Industrial rep said list was around $28, although pricing to ligitmate accounts could drop to $7-10 in small production quantities. I've seen this to be the case with some of the other AD parts I've designed in.

1-2 samples are free if you can show a ligit production potential, otherwise you'll be stuck paying list to one of the distributors.

Here's a few of the AD distributors, many will accept credit card orders.

Eagle 800-437-1645
Bell 800-525-6666
Newark 800-281-4320
Pioneer 800-482-0119
America 2 800-SOS-AMERICA
ADC 800-733-1230
HarborTech 800-437-4020
Major 800-966-2345
Accurate 800-753-0880
BlueFin 800-494-2583
Classic 310-539-5500

There are more but that should get you going.

The full p/n for the 0-70deg part is AD7008JP50. There is also an eval kit available with software p/n AD7008/PCB.

Good Luck,

--Dave KA9FUR

3289. Schematics/Parts list for Ramsey 2 Meter Kit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: Brian Oblivion <oblivion@l0pht.com>
Message-ID: <31A77FE8.3505@l0pht.com>
Source record: 105217
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Greetings,

Has anyone built the Ramsey 2 Meter Kit and still have the Schematics/
Parts List still around? I just picked one up at a Hamfest for dirt
cheap so it's worth it for me to try and repair it. One component is
fried beyond recognition, hence my need for the schematic/list.

I'd really like to fix this rig. The exact part number of this rig is
either RK-FX146 or RK-FX220. I'm sure the cicuitry is close enough
for either part number.

Thanks.

Brian
oblivion@l0pht.com

3290. Re: Help With HP-432A Power Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4o7n52$j2f@news.calweb.com>
Source record: 105218

Jay Wicklund <jwicklun@mail.halcyon.com> wrote:
>
>In article <4o2rj2$ee@buffnet2.buffnet.net>, <daveb@buffnet.net>
>writes:
>
>> When it powers up the analog display swings full scale then returns
>> below the zero mark. If I remove the bolometer it returns to the
>zero
>> on the display. Applying power to the head causes no response (-30 -
>> 10dbm). I suspect the head is damaged. Is that the way this
>instrument
>> behaves when the bolometer gets fried ?
>>
>> PS: Anybody have a good bolometer for sale ? (please don't rip me
>off)
>>
>> Thanks
>>
>> daveb
>Dave, I have a 431, not a 432, but before you leap, do a little more
>looking. First step might be to find someone with a similar unit and
>swap cables and heads to see if you can isolate the problem. Might be
>the cable or internal to the 432.
>
>Second, get a manual. I was able to get a manual for my 431 for about
>$20 from Manual Plus in Washington state. (206)531-8031. There are
>several other good sources for test equipment manuals, but this is the
>one that I've used the most (its close to me).
>
>Jay
>

Also get a manual for the thermister head (it is separate). I got
microfich copies from HP for about $7.00. They have almnost everything
on film. I then go to the library and make paper copies of what
I want.

Bill K7NOM

3291. Re: Anyone have a Frequency Counter Schematic?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-25 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4o844r$vc5@opera.iinet.net.au>
Source record: 105219

A J Jeffreys <sis5322@pbs5.milton.port.ac.uk> wrote:

>Hi,
> I'm looking for a schematic for a 1-30mhz frequency counter.
>It also needs to be able to be offset by about 455khz if possible.
>Does anybody have a suitable schematic or know where I can find one?
>If so, please could you e-mail me.

> Thanks

>A J Jeffreys ------- <sis5322@pbs5.milton.port.ac.uk> -----------------

We have a PIC micro based design on our web page
0-1 GHz and 8 digit resolution
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

3292. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <4o9t2t$2ir@news.scruz.net>
Source record: 105129
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <Drzu3H.19y@news.hawaii.edu>,
Jeffrey Herman <jherman@Hawaii.Edu> wrote:
>Richard Steven Walz <rstevew@armory.com> wrote:
>>In article <DrxLqp.DL8@news.hawaii.edu>,
>>Jeffrey Herman <jherman@Hawaii.Edu> wrote:
>>>Richard Steven Walz <rstevew@armory.com> wrote:
>
>>>> The BASIC STAMP is a Microchip PIC-based Microcontroller,
>>>>and is appropriate for ALL the groups in HIS newsgroup line we keep
>>>>seeing! They are used by roboticists, amateur radio enthusiasts, and
>
>>>Not ALL as you say. Are you familiar with the difference between the
>>>two groups rec.radio.amateur.misc and r.r.a.homebrew? After you've
>>>read the r.r.a charter then you'll understand why this topic and its
>>>dozens of followups have no place on r.r.a.misc.

NO one can tell from the name "homebrew" or "misc" whether the
"homebrew" people are making radios with lemons and scrap metals of
different valences and coconut shells and thigh-rolled wire drawn
on a home-forge and insulated with tarred cloth and Galena detectors,
and is religiously offended by the mere SIGHT of a microcontroller,
OR, whether the homebrew group just builds their own equipment and
LIKES microcontrollers real much and it's REALLY the "misc"ellaneous
people who ONLY *BUY* radios and *NEVER* fix or modify them and don't
EVER wish to be bothered with "hardware problems or technology" or
especially those damned impossible difficult BASIC Stamps!!!!!!
Do you get the picture now?? I have had conflicting email on WHAT
these groups want from their own fucking MEMBERS!!!!

I'm not going to waste *MY* time reading the other people's 14,000
other overly-verbose charters on Usenet to solve YOUR problem!! You can
FUCK yourself! YOU *MIGHT* have TRIED to explain all that in three sentences
that would have solved this days ago, had you not been a knee-biting
asshole! But you elected to play one-ups-man-ship instead!! Either
inform people when you speak, or come blow me, you moron!!!
-Steve

>Steve, Steve, Steve. What are we going to do with you? You obviously
>didn't read what I wrote above nor have you read the rec.radio.amatuer
>charter yet. When you finally do get arond to reading the charter then
>you realize that this topic doesn't belong on r.r.a.misc; it might be
>fine for r.r.a.homebrew but not .misc.
>Jeff KH2PZ

I have read every word on every post I ever posted TO!! I read your trivia, and I note AGAIN that you declined to explain to anyone else, supposing we would all go out and waste out time reading your fucking charter!! YOU didn't even POST your fucking precious charter, if you thought it needed dissemination!! You didn't even QUOTE from either of them by way of explanation!! You JUST wanted to generate your twisted antagonisms on a bunch of other groups where you thought you were welcome!! Guess again, you loose-rectumed little fart!

What are *WE* gonna do?? What're YOU gonna do you stupid haoli!!
You can kiss my ass and call me Mama for all *I* care about you!!
Shit in your hand and lick it, bastard!!! Go suck a turd!!
Have a nice day,
-Steve
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com

3293. Re: Need 2W Carbon Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: ghiscox@netcom.com
Message-ID: <4o9tgn$apv@news.snfc21.pacbell.net>
Source record: 105130

>mai@iquest.net (Patrick Croft) wrote:
>
>>I'm in need of some carbon comp resistors; 2.2K and 2.7K ohm, 2 watts, around 200 pcs for a project.
>>Checking normal channels resulted in (when laughter quit) six month lead time estimated.
>>I'll buy odds and ends so long as their leads aren't cut. Old Stackpoles, Allen-Bradley, etc.
You didn't mention what the project was, but if you're trying to make a BIG ONE
out of a bunch of little ones then you might check with this outfit:

http://www.1eagle1.com/commercial/pwdco/

The Peter Dahl Company has a bunch of hefty components and can probably satisfy
your requirements.

73 and good luck!

George

3294. Re: UHF "grid" dip meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: hjohnson@pluto.njcc.com
Message-ID: <pS7gnuoWWtwN079yn@pluto.njcc.com>
Source record: 105131

In article <4nu6v6$7j7@newsbf02.news.aol.com>, parf@aol.com (Parf) wrote:
*>Measurements Corp model 59 and 159 goes to 400 MHz and they also made a
*>model to 900 MHz. These meters totally blow away the Milen's, Heath etc.
*>I guess the real question is: why do you need the grid dip meter to build
*>the radio telescope?
*>
*>Dale WA2YPY

A few folks have suggested this instrument. If I can find one I'll be interested. I will probably build the old circuit in the ARRL handbooks of the 70's, the grid dipper with the 6CW6 nuvistor.

Others have suggested the "Slipper Dipper" from later versions of the ARRL handbooks - but noone said they BUILT and used one! I've considered it, but the Grid Dipper will be more sensitive. Some have said "why vacuum tubes?" Well, it's no bother to use one here! Nuvistors are small, low power anyway. A six-volt transformer with two 110 windings (110/220) will provide the extra 110 winding for the "high voltage" DC of 100 volts or so. And noone has offerred an alternative device that has less than 1pf (one picofarad) of input capacitance as does the grid of the 6CW4. And, I've easily bought NEW tubes for $4 each. (Could use some sockets, however!)

I may have my ham colleague build it, as he seems interested and has more RF experience than I. I'll post progress reports. Thanks!

Herbert R. Johnson voice/FAX 609-771-1503 day/nite
hjohnson@pluto.njcc.com Ewing, NJ (near Princeton) USA

occasional amateur astronomer at odd frequencies and hours
and senior engineer at Astro Imaging Systems: old photons to new bits!

3295. Re: Schematics/Parts list for Ramsey 2 Meter Kit?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: bobz@b.imap.itd.umich.edu
Message-ID: <4oa76g$p4a@lastactionhero.rs.itd.umich.edu>
Source record: 105132
Cross-posted to: alt.ham-radio.vhf-uhf,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.swap

Brian Oblivion <oblivion@l0pht.com> wrote:

>Greetings,

>Has anyone built the Ramsey 2 Meter Kit and still have the Schematics/
>Parts List still around? I just picked one up at a Hamfest for dirt
>cheap so it's worth it for me to try and repair it. One component is
>fried beyond recognition, hence my need for the schematic/list.

>I'd really like to fix this rig. The exact part number of this rig is
>either RK-FX146 or RK-FX220. I'm sure the cicuitry is close enough
>for either part number.

>Thanks.

>Brian
>oblivion@l0pht.com
I just built Ransey's 2 meter Fm receiver kit model FR-146. I still have
the book and drawins.

3296. NEED CROSSBAND REPEATER PLANS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <4oab1n$fsh@ns1.iamerica.net>
Source record: 105133

Hello,
I need some type of plans to build a cross band repeater between two
different mobile radios. I would like to incooporate some type of
ID'er also. Please email with your help and comments.

Thanks es 73's
dwhowell@iamerica.net

3297. Re: Help With HP-432A Power Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: davearea51@aol.com
Message-ID: <4oag20$jgu@newsbf02.news.aol.com>
Source record: 105134

It is somewhat normal for the meter to behave in this manner. There is a screwdriver adjustment on the instrument front panel which is a zeroing adjustment. Try this. If you still can't zero our the error, the balometer head is probably bad. This is sometimes quite a touchy adjustment and interactr with the knob on the front panel. Turn the potentiometer slowly. It is also normal for this instrument to "drift" zero adjustment as the balometer heats and cools. That was one of the problems with the old balometer method of measuring power. Yes, there is a ham in Denver area who has access to inexpensive balometer and diode mounts (I bought one for $25.00 at a recent swapmeet). However, I recently packed all that away. Wish I could help more.

Dave Eckhardt W6LEV

3298. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: cmoore@vegas.ch.intel.com
Message-ID: <4oaav2$rnm@chnews.ch.intel.com>
Source record: 105135
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4o6bgu$m26@news.scruz.net>,
Richard Steven Walz <rstevew@armory.com> wrote:

>I am simply puzzled why people are not
>availing themselves of all the local ISP's who almost invariably offer
>unlimited untimed access for under $20.00 a month! Many are only $15 !!

Oh Yeah? Please find just a single one for me in Madisonville, Texas.
A lot of the people getting soaked by some providers have only
one choice and even that one requires a long-distance phone call.
Seems you can't see the forest for for the skyscrapers.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

3299. Re: PA screen regulator plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: davearea51@aol.com
Message-ID: <4oagbh$jks@newsbf02.news.aol.com>
Source record: 105136

I use the old "Plumbers Special" P-P 4CX250 design of several decades ago on 2-meters. I might comment that when the amplifier is operating properly, the screen produces a little negative current - "charges" my Zener screen regulators. This is normal for this tube and is indigative of good linear operation - not more that a few mills, however. If the tubes aren't loaded heavily enough - likely nonlinear operation - they will "draw" screen current. Also an indication of light loading.

Dave Eckhardt W6LEV

3300. Re: H.V. transformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: davearea51@aol.com
Message-ID: <4oaevv$j2i@newsbf02.news.aol.com>
Source record: 105137

I have several HV transformers from various pieces of surplus equipment I have collected over the years. When I decided to do something about the wimpy power supplies in my Heath HF amplifiers, I was faced with your problem. To make a long story short, I bought - surplus - six 1 kohm/250-watt resistors for $2.50 each. This gives you enough options to series/parallel to get an idea of where the AC voltage starts to slump, and, therefore, how much current each transformer is good for in a bridge circuit for a HV supply. If you want more dissipation, you can fan-cool the resistors, or get fancy and put them in oil. Of course, you must also build a resistive divider to properly read the HV rms transformer secondary voltage. This is just ohms law - 2-watt resistors work fine if your loop current isn't too high and your duty cycle isn't too long. It only takes a few seconds to make an accurate reading. I eventually developed v/i curves for all my transformers and eventually bought a 3-amp CCS unit fron Peter Dahl for the SB-220 (it WILL do well over 2 kW output with a good power supply!). The little single-tube - 8873 - SB230 will also put out the legal limit on all bands in a linear, no flat topping or gain compression, fashion with a good stiff supply! Good luck>

Dave Eckhardt W6LEV

3301. Re: Detection of RF arcs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: davearea51@aol.com
Message-ID: <4oafk9$jcg@newsbf02.news.aol.com>
Source record: 105138
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I was not involved with Collins Radio experiments you are referring to. However, I have done much work with RF and HV. I will assume you are producing coherent RF - i.e. of single frequency as we do in amateur radio or broadcasting. When an arc is produced in such a system, much non-coherent RF energy is also produced by the arc itself. I had an SB230 from Heath with a stiff HV power supply feeding it. Heath did not design the amp with any parasitic surpressors in the plate. While operating into a good dummy load the amp would occassionally produce this "beautiful" arc around the BeO element from the plate to ground. The frequency was centered around 45 MHz, but could be heard everywhere in the RF spectrum from LF to UHF and above. I curred the problem by introducing a parasitic surpressor into the plate lead - a loss element above 40 MHz. No more RF arcs and no more wideband RF noise. I suspect you can use the same technique for detecting HV RF arcs in your system. I also suspect this is the same system refered to in the Collins experiments. I hope this helps. Just look for widebband "nasty" sounding RF energy where you should have clean and coherent energy.

Dave Eckhardt W6LEV

3302. Re: Trifilar windings?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: davearea51@aol.com
Message-ID: <4oaggv$jng@newsbf02.news.aol.com>
Source record: 105139

I believe, but could also be wrong, that trifillar vs. befillar windings yield lower Q and broader bandwidth. If you consult the ARRL publication on the subject, this seems to be one of the conclusions of all the wonderful data presented in the publication.

3303. Re: Need 2W Carbon Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: davearea51@aol.com
Message-ID: <4oahpb$k8q@newsbf02.news.aol.com>
Source record: 105140

Try Surplus Sales of Nebraska. I'd be very surprised if they couldn't help you.

3304. picture of sub-mini (pencil) tubes posted in a.b.p.misc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: wa2ise@netcom.com
Message-ID: <wa2iseDs1Au9.42w@netcom.com>
Source record: 105141
Cross-posted to:
rec.radio.amateur.homebrew,rec.audio.tubes,rec.radio.amateur.misc,sci.electronics.components,rec.antiques.radio+phono

Just posted a JPG picture file (in uuencoded form) in the newsgroups alt.binaries.pictures.misc and alt.binaries.pictures.12hr

The picture shows several "pencil" sub-mini tubes, along with a pair of regular mini tubes (one a 6AK5) for size comparison. Most are filament tubes by Rayethon, and 3 of the really skinny ones are detector diodes (with heaters).

These sub-mini tubes (along with compactrons) probably would have been the next wave of tubes to hit the consumer electronics area, if transistors were not developed. Imagine an audio pre-amp made with pencil tubes.

Also posted a picture of 25 to 30 year old radios.

3305. Re: Want Source fo AD7008 DDS chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: username@teleport.com
Message-ID: <username-2605962300350001@ip-pdx19-23.teleport.com>
Source record: 105142

In article <31A55316.2A4@mailbag.com>, "Jason F. Penn" <penn@mailbag.com> wrote:

> Anybody know availabilty and pricing (qty 1 or 2) of the
> Analog Devices AD7008 DDS chip?
>
> 73 de Jason

Its available from Newark via mail order. I just recently bought one along with two Analog Devices AD600's. Price was ~$55.00 for AD7008JP50 -thats 50mhz model. They will ship COD or VISA/MC. Mine went into a DDS/PLL hybrid interpolation synthesizer for my homebrew receiver.

All I need to do now is to obtain development system and C language for PIC controllers, yuck. Its not much fun tuning the radio with dipswitches!!

Rob N3FT

3306. Re: Need 2W Carbon Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <31a7ca7c.642526493@news.santafe.edu>
Source record: 105220

mai@iquest.net (Patrick Croft) wrote:

>I'm in need of some carbon comp resistors; 2.2K and 2.7K ohm, 2 watts, around 200 pcs for a project.
>Checking normal channels resulted in (when laughter quit) six month lead time estimated.
>I'll buy odds and ends so long as their leads aren't cut. Old Stackpoles, Allen-Bradley, etc.
>Email if you can help.
>Thanks!
>
>Patrick/WB9IQI
>
>
I have had good luck with Newark, but the price could break the bank.
$3.18 ea, min purchase per value 25.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com/jpaw/

3307. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: jherman@Hawaii.Edu
Message-ID: <Drzu3H.19y@news.hawaii.edu>
Source record: 105221
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Richard Steven Walz <rstevew@armory.com> wrote:
>In article <DrxLqp.DL8@news.hawaii.edu>,
>Jeffrey Herman <jherman@Hawaii.Edu> wrote:
>>Richard Steven Walz <rstevew@armory.com> wrote:

>>> The BASIC STAMP is a Microchip PIC-based Microcontroller,
>>>and is appropriate for ALL the groups in HIS newsgroup line we keep
>>>seeing! They are used by roboticists, amateur radio enthusiasts, and

>>Not ALL as you say. Are you familiar with the difference between the
>>two groups rec.radio.amateur.misc and r.r.a.homebrew? After you've
>>read the r.r.a charter then you'll understand why this topic and its
>>dozens of followups have no place on r.r.a.misc.

>While some or even many radio amateurs are still in the analog dark
>ages sending postcards to each other, packet radio and other digital
>advances have arrived, and I know of two radio buffs myself, and THEY
>use microcontrollers for their own equipment, so then, what in the
>world do YOU mean by saying that a PIC STAMP list of applications is
>non-relevant to amateur radio??? THEY seem to think it is QUITE
>apropos, and even though I only KNOW these TWO amateurs well enough to
>know, I somehow doubt that THEY wouldn't have a sense for the breadth
>of that endeavor and the attitudes of OTHER folks involved in it!
>So either explain your position now, or else come off of it and admit
>that whoever is SPAMING the L.O.S.A posts is just a backwards
>head-up-the ass son of a bitch technologically, and some kind of
>vacuum loving analog throwback!! ;-) Of course I doubt you will, but
>people telling the honest truth on the Net seems a bit rare anyway,
>and I think you can agree about that!! ;->
>-Steve FUKYU86 (I couldn't resist!)

Steve, Steve, Steve. What are we going to do with you? You obviously
didn't read what I wrote above nor have you read the rec.radio.amatuer
charter yet. When you finally do get arond to reading the charter then
you realize that this topic doesn't belong on r.r.a.misc; it might be
fine for r.r.a.homebrew but not .misc.

Jeff KH2PZ

3308. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: mkelly@brisbane.DIALix.oz.au
Message-ID: <4o8iju$8hl$1@brisbane.DIALix.oz.au>
Source record: 105222

w8jitom@aol.com (W8JI Tom) writes:

>In article <4nu20t$gca@clam.niwa.cri.nz>, wk@frc.niwa.cri.nz (Wilbert
>Knol) writes:

>>I always thought that in inductors, it is the current that generates
>>the flux. As opposed to capacitors, where the voltage across the
>>electrodes is responsible for the electric field.
>>
>>Wilbert, ZL2BSJ.
>>
>>

>That is true Wilbert, but current relates to voltage and impedance. In
>some cases voltage is easier to use, in some cases current is easier to
>use.

>The problem is either related to parallel reactance and voltage, or the
>current. In any case, it eventually gets down to the flux density and
>losses.

>73 Tom

So, Tom? What are you saying?
Which is it?
Murray Kelly vk4aok.

3309. Re: Free Beer & Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: Peter Trapp <alpha10@digital.net>
Message-ID: <4o8bkr$555@ddi2.digital.net>
Source record: 105223

jherman@Hawaii.Edu (Jeffrey Herman) wrote:
>In article <4o29va$95e@sjx-ixn5.ix.netcom.com>, <nuos@ix.netcom.com> wrote:
>>There's a new software program called "Beers of The World" that's
>>available at http://www.nuos.com/nuos/beer. It seems pretty complete
>>and has descriptions and ratings on over 1500 beers and 500 breweries.
>>Also, everyone who downloads it becomes automatically eligible to win
>>a year of free beer. Check it out.
>
>
>Oh my. Very bad timing to see something like this! Here we've been arguing
>for 3 weeks on .misc in favor of the name for the newly proposed group
> rec.radio.amateur.boatanchors
>by claiming no one misunderstands the title r.r.a.homebrew, and then
>something like the above has to appear. Phooey.
>
>Let's keep this to ourselves and not let anyone on news.groups know
>about this... =:o
>
>Jeff KH2PZ

I'm all for beer delivery by radio. Not sure how you would do it
but it sounds like a neat idea ;-)
--
****
* Peter Trapp KD4CN - alpha10@digital.net *
****

3310. watkins-Johnson

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: angel vilaseca <100604.1242@CompuServe.COM>
Message-ID: <4o91g2$1lt$1@mhafn.production.compuserve.com>
Source record: 105224
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.space,sci.electronics.equipment,sci.electronics.repair

Looking for data about the following travelling wave tube:
Watkins-Johnson WJ-3104
This must be a 18 GHz model

Also looking for data about another TWT made for the US Navy:
M 9162
NSN 5960-00-491-7356

3311. What kind of antenna is this?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: hturn@pelican.davlin.net
Message-ID: <31a81e0a.23859155@news.davlin.net>
Source record: 105225

I have just aquired a military antenna and I was wondering what
exactly I have. It seems to be a very large mobile antenna.

It consists of the bottom (base) which is about 24 inches long and 3
inches in diameter painted green. N type connecter on the side about
9 inches from the bottom. Stamped on the base is the following:

ANTENNA AT-1062/G
ORDER NO. 40512-PM-60
MOTOROLA INC. SER.NO. 1

Yes ser.no. 1.

After the base is a very heavy steel spring. Then comes 24 inches of
half inch aluminum tube on the end of which is a compression nut where
a whip such as a 102 incher would fit.

Any ideas as to what I have aquired?

Does the N type connector indicate that this is a VHF or UHF antenna?

Let me know if you have any ideas I am tempted to disasemble the base
but don't dare to now.

Thanks Hank.
hturn@pelican.davlin.net

3312. VHF/UHF SS PA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <EZaXsDAvCDqxEwd0@ifwtech.demon.co.uk>
Source record: 105226

Hi

Wonder if anybody can identify this PA unit which I've been offered?

It contains 4*4 identical "bricks", all combined at input and output.
Each brick is about 4.5 x 2.75 x 1in and contains two power transistors
ACIRAN 45008 in push-pull with forward bias circuitry.

The main chassis is H section half inch thick ali, with an oil cooling
element on the middle web and four bricks on each wing. It also contains
a 200v 400 Hz fan. The whole thing weighs about 100lb.

Any ideas, please, either about the transistors (Vcc, gain, Po etc) or
the whole unit?

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3313. TRANSISTOR INFO,JUST ASK ME!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: wrap@euronet.nl
Message-ID: <wrap.34.000C2F99@euronet.nl>
Source record: 105227

Hello all,
If you need any info about any transistor,just post here,or the
quick way,e-mail.
Greetings,
Jim Wilson
scanman@dds.nl

P.S.
DON`T E-MAIL ME AT EURONET.NL,IT WILL AUTOMATICLY DELETED!!!!

3314. Re: Kenwood TS820s

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-26 00:00:00 UTC
From: Dave Maley <dgmaley@inav.net>
Message-ID: <31A86F16.7E27@inav.net>
Source record: 105228

Ej Mars wrote:
>
> My Kenwood TS820S is Transmitting and receiving off frequency on
> upper side band. The If Shift has to be 2-3 notches to the minus side to
> recieve Ok. The Lower side band is working find. Does anyone out there
> Have any Idea what could be causing this problem and what can I do about
> it. Please reply.
>
> Thanks
> KCPEPI
> EJ@lagn.com
>

Sounds like one of the carrier osc. have gone off frequency.
They are in a module near the VCO. Best aligned with the use of
a service manual. Good luck. Dave.

3315. NEW! Radio Equipment Spec Sheets at Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4ob65j$5km@news.accessone.com>
Source record: 105143
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

We've added a directory of Amateur Radio Equipment specification datasheets to the Ham Radio Online web site at:
http://www.accessone.com/~vbook/hronline.htm

This directory is a large list of pointers to detailed specifications for all new Amateur Radio gear being manufactured today. If you are in the market and looking for just the right radio for you, take a look - this will help you narrow down the choices for the radios that meet your requirements.

Ham Radio Online is self-supported (no ads) and just happens to be the coolest, award winning Amateur Radio web site that looks like a magazine. We feature original stories, newsletters from around the world, in depth real-time propagation, auroral and meteor scatter reports, real-time disaster conditions and much more. Stop on by and have a visit. Let us know if you have ideas for other Amateur radio related items that we should add to our web site.

Thanks and 73,
Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

3316. Re: Trifilar windings?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ob7e2$6nb@crash.microserve.net>
Source record: 105144

mack@mails.imed.COM wrote:

>I have been doing a lot of reading lately and many transformers
>including DBM transformers specify trifilar windings. Why is this?
>
>Is it just easier to do the windings? It sure doesn't seem so to me.
>I can't believe that the coupling is really that much tighter when
>trifilar windings are used. It would seem that the toroid properties
>give most of the coupling. But I've been wrong before once or twice.

What winding method are you comparing the trifilar windings against?

73,
Jack WB3U

3317. looking for TFWIN.DLL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: komatsu@nimc.go.jp
Message-ID: <komatsu-2705961056170001@cm950m.nimc.go.jp>
Source record: 105145
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Hello OMs,

I am looking for TFWIN.DLL. This is host mode packet driver for Windows 95.
My neighbour is running WinFBB PBBS with BayCom modem, its documents
remind this library, but we cannot locate where it is.

Any informations are welcome.

--
KOMATSU Toshiki / Joint Graduate school of Chem., Univ. of Tsukuba
komatsu@nimc.go.jp, s935562@ipe.tsukuba.ac.jp

3318. KPC-3 microprocessor info?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: morkb@ix.netcom.com
Message-ID: <4obe1s$qe3@dfw-ixnews5.ix.netcom.com>
Source record: 105146

Does anybody have availability/pricing info for the
6303 microprocessor inside a KPC-3? I fried mine with
static and need a replacement.

/Brian

3319. Re: Need 2W Carbon Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <4obge2$12@btc1.up.net>
Source record: 105147

Your request is not as it may sound. I do not have a catalog,
(and I have a few!) that still list a carbon 2 W. resistor.
I am hanging onto those I have. Good luck.
Roland, KB8XI

3320. Re: PA screen regulator plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4obhb8$8hs@clam.niwa.cri.nz>
Source record: 105148

"Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk> wrote:

>Full notes, schematics and a PC layout for my upgraded G4JZQ PA screen
>regulator are now available via W6/PA0ZN's Web pages
>(http://www.nitehawk.com/rasmit/ws1_1.html - tnx Rein!).

Any chance of having the files available by anon. ftp? I had a look
around ftp.nitehawk.com without seeing anything obvious.

Wilbert, ZL2BSJ

3321. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4obh1t$8hs@clam.niwa.cri.nz>
Source record: 105149

Kevin Schmidt <kschmidt> wrote:

>Just to show there is no magic here, Faraday's law in SI is

> Curl E = -dB/dt.

>For a single frequency f this says

>|Vpeak(Volts)| N = |Bpeak(Tesla)| 2 pi f(Hz) Area(meter^2)

Am I correct in assuming |Vpeak| is in fact the voltage induced by the
B field?

It appears to me that the voltage applied would have to be slightly
larger than the opposing (self) induced voltage, this in order to
generate the current responsible for the H field.

Wilbert, ZL2BSJ.

3322. mods for FT-2500M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: radio2talk@aol.com
Message-ID: <4obr6e$9tq@newsbf02.news.aol.com>
Source record: 105150

I am looking for any and all mods for the Yeasu FT-2500M.
Ones to extend receive would especiallly help

TNX
Martin N9ZTZ

e-mail at Radio2talk@aol.com

3323. Re: Looking for 6mtrs circuit diagram!!!!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <8331962222701@hcol.humberc.on.ca>
Source record: 105151

> mac@ul.ie (MAC) wrote:
>
> >Hi ,
> > I wonder if any body would have a circuit diagram or know the where about
> >of one for a 6mtrs Transverter.Maybe somebody could recommend a kit of some
> >sort otherwise but I would grateful for the info.....
>
> > Regards Robbie EI8ESB
>

Ten-tec offers a couple of 6M transverter kits...6M to 20M or 6M to 2M.
DownEast Microwave also offers a 6M transverter kit..can't recall what
the I.F. is but I believe its 10M.
The DownEast unit is of superior quality and design but the Ten-tec kits
are much more affordable. I bought one of the 6M to 20M kits about a year
ago...it went together easily and performed very well. I was impressed
with the value:performance and would recommend it !
You would be hardpressed trying to source the parts and assemble something
on your own for less than $95.

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

3324. AD7008 Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: c_sieg@conknet.com
Message-ID: <NEWTNews.6344.833203050.c_sieg@PIEXX.conknet.com>
Source record: 105152

Hi Folks,
I have available both AD7008JP-50 DDS chips and an evaluation board based on the Intel 80C196 uP. Send me an e-mail if you are interrested.

73's
-Chris WA3LDI
e-mail c_sieg@conknet.com

3325. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: floydab@qnet.com
Message-ID: <4ocmoq$1f5@mandolin.qnet.com>
Source record: 105153
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4oaav2$rnm@chnews.ch.intel.com>, cmoore@vegas.ch.intel.com
says...
>
>In article <4o6bgu$m26@news.scruz.net>,
>Richard Steven Walz <rstevew@armory.com> wrote:
>
>>I am simply puzzled why people are not
>>availing themselves of all the local ISP's who almost invariably offer
>>unlimited untimed access for under $20.00 a month! Many are only $15 !!
>
>Oh Yeah? Please find just a single one for me in Madisonville, Texas.
>A lot of the people getting soaked by some providers have only
>one choice and even that one requires a long-distance phone call.
>Seems you can't see the forest for for the skyscrapers.
>
>73, Cecil, KG7BK, OOTC (not speaking for my employer)
>
>
try AT&T or MCI, $19.95 per month unliminted time!!!!!
73's
--
Floyd of Fort Brown
Procrastination is my game

3326. Re: Trifilar windings?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <833196768snz@lfheller.demon.co.uk>
Source record: 105154

In article <9604248329.AA832981975@mails.imed.com> mack@mails.imed.COM writes:

> I have been doing a lot of reading lately and many transformers
> including DBM transformers specify trifilar windings. Why is this?
>
> Is it just easier to do the windings? It sure doesn't seem so to me.
> I can't believe that the coupling is really that much tighter when
> trifilar windings are used. It would seem that the toroid properties
> give most of the coupling. But I've been wrong before once or twice.

Conventional transformers, even wound on toroidal cores, give very
limited bandwidth. Bifilar and trifilar windings act as transmission
lines, which give very high bandwidths. Transmission line transformers
need the core mainly for low-frequency performance.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

3327. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: atkes@imap1.asu.edu
Message-ID: <4octvd$k3p@news.asu.edu>
Source record: 105155

Wilbert Knol (wk@frc.niwa.cri.nz) wrote:
: Kevin Schmidt <kschmidt> wrote:
: >Just to show there is no magic here, Faraday's law in SI is
: > Curl E = -dB/dt.
: >For a single frequency f this says
: >|Vpeak(Volts)| N = |Bpeak(Tesla)| 2 pi f(Hz) Area(meter^2)

: Am I correct in assuming |Vpeak| is in fact the voltage induced by the
: B field?

: It appears to me that the voltage applied would have to be slightly
: larger than the opposing (self) induced voltage, this in order to
: generate the current responsible for the H field.

: Wilbert, ZL2BSJ.

First let me slightly correct the formula; the N should be
on the opposite side of the equal sign. N*A gives the total area
enclosed by the N turns,
|Vpeak(Volts)| = N |Bpeak(Tesla)| 2 pi f(Hz) Area(meter^2).
The rest was correct.

V_peak is the voltage measured across the N turns. If the N turns are
left open, they don't contribute to the the magnetic field since no
current flows. You then measure the voltage induced by the magnetic
field from whatever other turns there are. If you apply a different
voltage to the N turn winding, a current will flow in it. This will
produce the additional magnetic field exactly needed so that faraday's
law holds. That is there is some (self) inductance in the winding and
current through the winding itself will produce an additional voltage
across the winding. For example if you short a turn, the net flux
through the shorted turn must be zero (ignoring the fact that it is not
a perfect conductor). If other windings on the toroid produce a
magnetic field, then a current flows in the shorted turn to produce an
additional field that cancels the field from the other windings through
the shorted turn.

You can calculate the flux from the currents in the windings too,
but it is a little harder. The other Curl equation
in Maxwell's equations (in SI) says,
Curl H = dD/dt + J.
For normal toroids, the dD/dt term can be ignored, and this reduces
to Ampere's law
Curl H = J.
Converting into the integral form, I get (approximately) for a single winding
H 2 pi r = N I.

or with B = mu H
B = mu N I /(2 pi r)
where 2 pi r is the circumference of the loop around the toroid where you are calculating the magnetic field (it really isn't constant across the area of the cross section of the toroid). You can now measure all the currents in all the windings complete with their phases and calculate the flux from each of the windings. You need to know the mu of the core too. You then add all these fluxes up to get the total flux in the core.

The answer you get will agree with that of Faraday's law. Most people find it a lot easier to just measure the voltage across one winding.

Kevin w9cf@ptolemy.la.asu.edu

3328. Re: Need 2W Carbon Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4octir$emu@news.fwi.com>
Source record: 105156

In <4oahpb$k8q@newsbf02.news.aol.com>, davearea51@aol.com (DaveArea51) writes:
>Try Surplus Sales of Nebraska. I'd be very surprised if they couldn't
>help you.

Try Pembleton Electronics in Fort Wayne Indiana. They have thousands at 'real'
surplus prices. Also, start making your plans for the Fort Wayne Hamfest on
November 16-17. The best Hamfest deal in the country. Check out their Web Page.
at - http://pwp.usa.pipeline.com/~dagagnon/
It isn't Dayton but 1100 tables, 152,000 square feet of indoor space, an attendance
of 7,000 last year for a $5.00 admission for 2 days isn't too shabby! See you there!

Jim WD9AHF

3329. Schematic For An RC radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: mechdude@aol.com
Message-ID: <4od7ih$lvm@newsbf02.news.aol.com>
Source record: 105157

I'm not too knowledgable (hell, I can barely spell the word) about radios, but my brother knows about so If anyone can send me schematics for an RC radio, I would appreciate it.

3330. Looking for SRF2926 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: markem@primenet.com
Message-ID: <4od7hf$as8@nnrp1.news.primenet.com>
Source record: 105158
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I'm trying to locate a SRF2926 transistor to repair the PA in a UHF repeater. I can't find them listed in any of my catalogs (which are not extensive). Anyone know of a source or replacement for them? Anyone have any spares laying around? It's a late 70's vintage Aerotron unit, if that helps.

Thanks & 73... Mark AA7TA

3331. Re: Want Source fo AD7008 DDS chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4od6gi$apj@peabody.colorado.edu>
Source record: 105159

From: dave@pryon.com (Dave Karr)

"Analog Devices has many distributors that handle these parts. My Future Active Industrial rep said list was around $28, although pricing to ligitimate accounts could drop to $7-10 in small production quantities. I've seen this to be the case with some of the other AD parts I've designed in."

How many is "small production quantities?" Any chance a r.r.a.h. group order for AD7008s could be placed? For $7 each, I'd get several. Or is there a manufacturer out there already buying the things in quantity, and wouldn't mind having a few personal orders tacked on (one of whose employees reads r.r.a.h.?)

Bruce
N6URH

3332. AM modulator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: axn110@psu.edu
Message-ID: <4odd4b$1lvc@hearst.cac.psu.edu>
Source record: 105160

Hi,

This isn't really Ham type stuff, but I couldn't think of another appropriate newsgroup to post in.

I have a 1963 VW bug with the original radio in it, and I'd like to leave it unadulterated, ie. keep the Motorola AM radio. So, what I was thinking is make some device that would allow me to say have an RCA stereo jack on one end and that plugs into a tape player, 2 meter rig (OBHAM!), etc. While the other end eventually goes to an alligator clip that attaches to the antenna. Ala old drive in movie theaters. However, I am completely stymied as to how to build said device.

Thanks,
Adam

3333. how get into ICOM battery packs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: mac@cis.ksu.edu
Message-ID: <mac.833240786@zaurak.cis.ksu.edu.cis.ksu.edu>
Source record: 105161

I have ICOM BP-82 and BP-84 battery packs which I really need to get into
so I can replace a cell or two. If someone has already "chewed" his/her
way into such a pack, I'd sure appreciate suggestions!

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE; Associate Professor (913) 532-6350 work 532-7353 fax 539-4448 home
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3334. Re: AM modulator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <31AA6802.2C05@wenzel.com>
Source record: 105162

There is a circuit for an AM-band transmitter in our technical library at www.wenzel.com. Although it may look complicated at first, the circuitry is easy to make work. Since you are transmitting to an older radio, any crystal frequency in the band will work. (Newer radios only tune to specific frequencies.) You shouldn't need a direct connection to your car's antenna - just a few feet of wire. You may use your tape player's "mono" mode so that you hear both channels or you may wish to build the audio mixer to combine both channels and to give a bit of signal gain (see text). Some earphone outputs require a DC path to ground in order to work properly (mine did!) so add a several hundred ohm resistor to ground (whatever works). Please let me know how it works!

3335. Re: Key belonging to owner of Vibroplex Co. stolen at Dayton

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: RJD <rad@imperium.net>
Message-ID: <31AA5AFE.32B5@imperium.net>
Source record: 105163

Jeffrey Herman wrote:
>
> Mitch, WA4OSR, owner of Vibroplex Company, gave me permission to post the
> following. Let's please get his bug returned to him.
>
> Jeff KH2PZ
>
> ==
> From: Mitch, WA4OSR <wa4osr@cris.com>
>
> stolen at dayton from the vibroplex booth, an elaborately engraved vibroplex
> square brass racer, serial number 101000, with 'Mitch"
> engraved on the top of the vertical block... the key is gold plated, and is
> obviously very unique... anyone who has any information about
> the key please contact me at the address below... no questions asked... i
> just want my key back...
> mitch
> wa4osr
> ------------- * * * The oldest company in ham radio! * * *------------------
> Felton "Mitch" Mitchell The Vibroplex Co., Inc.
> wa4osr@cris.com 11 Midtown Park, E.
> 334-478-8873, FAX 334-476-0465 Mobile, AL 36606-4141

Unbelievable!. Or, I guess, believable. Sad.

Hope you do locate the key.

73s
WB2JGH

3336. Re: Need 2W Carbon Resistors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4odtj4$ssb@newsbf02.news.aol.com>
Source record: 105164

>Checking normal channels resulted in (when laughter quit) six month lead
time
>estimated.
>I'll buy odds and ends so long as their leads aren't cut. Old
Stackpoles,
>Allen-Bradley, etc.
>Email if you can help.
>Thanks!
>
>Patrick/WB9IQI
>
Patrick,

You have a real problem. There are very few sources left of true carbon comp type resistors. Most people THINK all carbons are carbon comps, but most are carbon film types having much higher inductance and VERY poor energy absorbing characteristics.

Other than A-B, I don't know where you'll find them today. You might try Carborundum as a source of higher power resistors.

We require use of carbon comps (in RFequipment manufacturing) both for energy absorbing and low VHF impedance (parasitic suppressors), we just bite the bullet and order A-B's.

73 Tom

3337. Re: PA screen regulator plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <s4UZGEAU7bqxEw65@ifwtech.demon.co.uk>
Source record: 105165

Wilbert Knol wrote:
>

>>Full notes, schematics and a PC layout for my upgraded G4JZQ PA screen
>>regulator are now available via W6/PA0ZN's Web pages
>>(http://www.nitehawk.com/rasmit/ws1_1.html - tnx Rein!).
>
>Any chance of having the files available by anon. ftp? I had a look
>around ftp.nitehawk.com without seeing anything obvious.
>

It's right there on Rein's web page as given above, but you have to
scroll down the page to see where to click.

AFAIK it's on ftp.nitehawk.com/rasmit as well, name of SCRNREG.ZIP.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3338. design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: "Peter Markham"
Message-ID: <4od01k$a4p@doc.zippo.com>
Source record: 105166

Does anyone on the net have a url for a sound, real world
design for the fabrication of coaxial matching lines to allow
use of catv al 1/2" hardline from a 52 ohm source to a 52 ohm load
on 144 and 440 mhz?
TIA,
Pete/wa4hei

3339. Source 2 3/8" to 2 1/2" solid fg stock?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-27 00:00:00 UTC
From: "Peter Markham"
Message-ID: <4od0a8$ab3@doc.zippo.com>
Source record: 105167

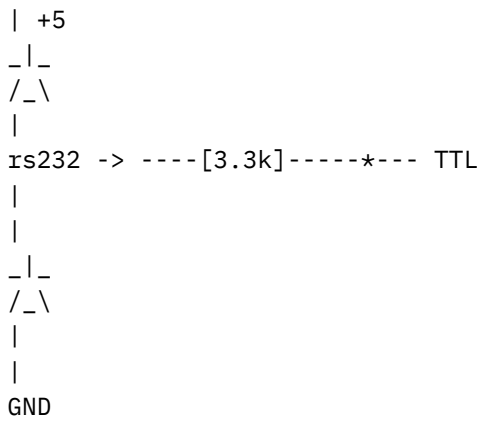
I am still looking for a source of 2 3/8" to 2 1/2" solid
fiberglass rod stock, and engineering specs for the material.
I intend to erect a Rohn HDBX, using the stock to isolate the
tower. Any objective criticism or help, welcome.

TIA,
Pete/wa4hei

3340. Re: Wanted: RS232 to TTL

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: Dave <David.S.Schuman@att.com>
Message-ID: <4ofeur$7mo@ssbunews.ih.att.com>
Source record: 105079

here's a simple way to convert RS232 to TTL



Incase the schematic didn't come out.
bring the RS232 in through a 3.3k resistor conectted to a diode
clamp to +5 and ground

3341. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: Dave Hand <dhand@microdes.com>
Message-ID: <31AAEED0.33CF@microdes.com>
Source record: 105080
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

miker in Tigard, OR. wrote:
>
> I need to weld solder tabs onto a bunch of nicad batteries.
> Thought I'd ask before I risk electrocution.
>
> I don't have access to a proper welder, so I'd like to "make do".
>
> I thought I'd jig up a couple of sharp pointed nails and press them
> against the strap up against the battery. I'll manually discharge a
> big cap into the nails. I have no idea how much pressure or how much
> energy will be required.
>
> What's wrong with this picture? Anyone successfully welded tabs?
> Details please.
>
> On a related topic, I also have a bunch of nicads with tabs for
> push-on connectors. I need to save some space by soldering to the
> tabs. Of course, they won't solder (now I know why they were cheap),
> probably stainless. Is there a flux for soldering stainless?
>
> Thanks, miker

Yes There is flux you can find to solder stainless, Your Cap and nail
Idea I think I would be a bit wary of. If you really want to spot weld
tothe cells you might look for a local battry vendor that has the right
eq.

Good Luck!

Dave hand wb4hyp

3342. Re: Diplexer filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: randolph@est.enet.dec.com
Message-ID: <4ofi0s$mat@mrnews.mro.dec.com>
Source record: 105081

In article <832707131snz@darkblue.demon.co.uk>, Gareth Edwards
<Gareth@darkblue.demon.co.uk> writes...
>If it's what I think it is, there's a good treatment in "Solid State
>Design for the Radio Amateur" by Hayward W7ZOI and DeMaw W1FB (ARRL
>1986), which is an excellent book that everyone should own.

Careful, there... I analyzed the recommended diplexer in "Solid State Design"
using modern tools, i.e. SPICE. It has a very strange double-peaked bandpass
and input impedance. One of the more modern designs (since computer modeling -
SSD is 1970s vintage!) will give you a nice smooth 50 ohms over a very wide
bandwidth. See, for instance, the diplexer used by KH6CP in a Sep. 95 QEX
article.

Other than this and a couple of other minor nits, I wholeheartedly agree about
"Solid State Design". Almost every single time I want to learn something about
RF design, I pick up SSD and find an answer, or at least some info to get me
started. It's easily one of the most useful electronics books ever written!

The main area to watch in that book is when they start cascading filters, and
the diplexer mentioned is one of those. I've found that you can't simply plug
the output of one LC filter into the input of another and expect simple
results. Almost always there are unwanted resonances created.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@est.enet.dec.com
==========

3343. Re: NEW! Radio Equipment Spec Sheets at Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: mreiney@hevanet.com
Message-ID: <4off1j$ini@vista.hevanet.com>
Source record: 105082
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Neat web page. Lots of good stuff.
But it takes forever to load... like 2 minutes when the web is loaded.
Would it be possible to put all the neat graphics in a sub-page, or at
least show the links before posting the graphics so we don't have to
wait?

miker

vbook@vbook.com (Ed Mitchell) wrote:

>We've added a directory of Amateur Radio Equipment specification datasheets to
>the Ham Radio Online web site at:
>http://www.accessone.com/~vbook/hronline.htm

>This directory is a large list of pointers to detailed specifications for all
>new Amateur Radio gear being manufactured today. If you are in the market and
>looking for just the right radio for you, take a look - this will help you
>narrow down the choices for the radios that meet your requirements.

>Ham Radio Online is self-supported (no ads) and just happens to be the coolest,
>award winning Amateur Radio web site that looks like a magazine. We feature
>original stories, newsletters from around the world, in depth real-time
>propagation, auroral and meteor scatter reports, real-time disaster conditions
>and much more. Stop on by and have a visit. Let us know if you have ideas for
>other Amateur radio related items that we should add to our web site.

>Thanks and 73,
>Ed (KF7VY) and Kim (N7VPL) Mitchell
>email to vbook@vbook.com
>Visit Ham Radio Online, it's free! at
>http://www.accessone.com/~vbook/hronline.htm

3344. PLATE METER FOR SB220

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: "Thomas L. Gaines, Sr." <tgaines@datastar.net>
Message-ID: <31AB7260.7347@datastar.net>
Source record: 105083

I need a plate meter for the SB220 amplifier..Anyone having one or a source, please reply.

Tnx, Tom
--
Thomas L. Gaines, Sr.
Amateur Radio Callsign N5ISE
703 Jones Street
Picayune, MS 39466-5239
Coordinates 30*31' North 89*42'West

3345. need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: charlie@netdepot.com
Message-ID: <charlie-2805961627350001@europa04.netdepot.com>
Source record: 105084
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

I'm planning to put up a 250 ft (approx. full wave 80m) wire dipole and feed it with ladder line for use as a multiband antenna. If the legs are more than 90 degrees apart in the horizontal and veritical planes, will the radiation pattern be substantially different that if it was 180 degrees in each plane? Any other suggestions appreciated. Thanks.

73 de KF4GJQ (Charlie Fortner)

3346. Poor ham's "sweep generator"

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4ofo1g$9mt@blixen.aquilagroup.com>
Source record: 105085

OK, somebody must of thought of this before, but I had to think of it myself!

This info will be handy to anyone homebrewing a superhet, or IF filter.

I wanted to sweep the IF filter in my TS-520, but I lack a sweep generator..

First I hooked voltmeter and freq counter to audio output, and plotted point by point. Slow, but Illumintating..There was a nasty extra hump on one skirt, only ~12 dB down. Yech!

I wanted a "real-time" sweep, so I could observe effect of tweaking filter input transformer. What to do?

After thinking for a few weeks, I had it:
Connect a low frequency sawtooth wave to the variactor used for RIT shift. Using the internal calibrator as an input, the reciever now sweep tunes through the signal, allowing the filter respose to be observed directly on the scope.

The trick is in using a fixed signal, and sweeping the rx tuning....backwards from normal test setup. Using the existing RIT circuit was a frugal touch as well.

Worked great for me, should be able to adapt to any RIT equiped circuit, or a couple of diodes could be added for test.....

I triggered the scope off of sawtooth waveform, but a X-Y setup should work well too.

The triangel wave generator was homebrewed using a LM3900 Norton Amp. I set this up for DC adjustment too, so I could check liniarity (using frequency counter on AF again) linearity seemed pretty good over ~ 4 Khz range.

Now If I could just get a decent IF filter response! Looks like I need to build a ladder filter....been wanting to do that anyway.

-73-, Kevin

3347. Re: Diplexer filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4ofp4k$ejv@hpscit.sc.hp.com>
Source record: 105086

In article <4ofi0s$mat@mrnews.mro.dec.com>,
Tom Randolph <randolph@est.enet.dec.com> wrote:
>
>In article <832707131snz@darkblue.demon.co.uk>, Gareth Edwards
<Gareth@darkblue.demon.co.uk> writes...
>>If it's what I think it is, there's a good treatment in "Solid State
>>Design for the Radio Amateur" by Hayward W7ZOI and DeMaw W1FB (ARRL
>>1986), which is an excellent book that everyone should own.
>
>Careful, there... I analyzed the recommended diplexer in "Solid State Design"
>using modern tools, i.e. SPICE. It has a very strange double-peaked bandpass
>and input impedance. One of the more modern designs (since computer modeling -
>SSD is 1970s vintage!) will give you a nice smooth 50 ohms over a very wide
>bandwidth. See, for instance, the diplexer used by KH6CP in a Sep. 95 QEX
>article.

Now you pushed one of my buttons: believe it or not, there was life before
Spice. In the 1950's, it was shown using nothing but algebra (in closed form)
that any singly terminated Butterworth filter and its dual can be combined
to make a "perfect" diplexer, where "perfect" meant that the reflection
coefficient of the "combined" port was zero at all frequencies. In 1968,
Wenzel (IEEE trans. MTT) showed that if the Butterworth filters were replaced
by elliptic function filters, the reflection coefficient, although no
longer zero, was negligible for most practical purposes. Again, this was
done without any circuit analysis programs. There is nothing "modern"
about properly designed diplexers. In fact, Spice doesn't design anything,
except by trial and error. And you can do that at your workbench without
a computer.

Thanks for letting me say that. We now return you to your regularly scheduled
program.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3348. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: sam@stdavids.picker.com
Message-ID: <SAM.96May28163616@colossus.stdavids.picker.com>
Source record: 105087
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

Clean very well with fine sandpaper or file. Flux, very hot iron, very quickly, Too long and you will damage the cell.

--- sam

3349. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: Steve Dobak <sdobak@prolog.net>
Message-ID: <31AB9FE9.57DF@prolog.net>
Source record: 105088
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Charlie Fortner wrote:
>
> I'm planning to put up a 250 ft (approx. full wave 80m) wire dipole and
> feed it with ladder line for use as a multiband antenna. If the legs are
> more than 90 degrees apart in the horizontal and veritical planes, will
> the radiation pattern be substantially different that if it was 180
> degrees in each plane? Any other suggestions appreciated. Thanks.
>
> 73 de KF4GJQ (Charlie Fortner)
oh yes, the radiating pattern can be quite different, as you increase
frequency you can wind up with a Vee beam. Its better unless you plan on putting up a
Vee beam to have as close to 180 degrees as possible, A small angle sat 15 or 20 degrees
really wont make much of a differance
but you have as a full wave antenna very high feedpoint impedance of
several thousand ohms, which can make matching hard unless you make
some pains to adjust your feedline to give you an impedance at your
tuner that you can deal with, of corse you can have problems on other bands. You should
have better luck making a closed loop of 1 wave or better on your lowest freq. you
whould find a reasonable match anywhere
you want and with a good 4-1 balun you can use your rigs internal antenna tuner and have
both an efficent antenna and one that is easy to
match. The closed loop keeps impedance excursions to a minimum and
provide good performance.
------steve wb3amg-----

3350. Motorola Mic Pinout?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.152.030E1C4A@mindspring.com>
Source record: 105089

I recently bought some motorola DTMF microphones.

They are part # HMN1014ASPOT

They have a connector that looks like:

(looking down on connector end)
the o's are contact holes.

```
|<- 5/8" ->|
+----------+ --
| o o o | ^ 3/8" ( my pin numbers: 1 2 3
| o o | v 4 5 )
+----------+ --
```

All on a piece of semi-soft black plastic about 1/2" long.

I get continuity between pins 3 & 5 at push-to-talk.
I get about 10K (using cheap VOM) between 2&5 (5 -, 2+) on PTT.

I had it apart, and there are 3 little PC boards, double side surface mount; I do not recognize any IC part #'s to get voltage info this way.

Does any one know anything about the pin-out for this mic?
I want to use it for an old mobile 2M rig, and must replace the connector anyway!

Thanks in advance,
Ed Ganger, KB4ORA

3351. Re: Want Source fo AD7008 DDS chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: eganger@mindspring.com
Message-ID: <eganger.153.0313BF5C@mindspring.com>
Source record: 105090

In article <4od6gi$apj@peabody.colorado.edu> tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:
>How many is "small production quantities?" Any chance a r.r.a.h. group order
>for AD7008s could be placed? For $7 each, I'd get several. Or is there a
^^^^^^^^^^^^^^^^^^^^^^^^

Count me in on any "group buy" ... I would be good for 3-5 at that price.
Regards,
Ed KB4ORA

3352. Re: how get into ICOM battery packs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: gorslin@pathcom.com
Message-ID: <4ofnpe$7an@news.pathcom.com>
Source record: 105091

In article <mac.833240786@zaurak.cis.ksu.edu.cis.ksu.edu>,
mac@cis.ksu.edu (Myron A. Calhoun) wrote:
>I have ICOM BP-82 and BP-84 battery packs which I really need to get into
>so I can replace a cell or two. If someone has already "chewed" his/her
>way into such a pack, I'd sure appreciate suggestions!
>
>--Myron.

You can get into them by removing the bottom plate. Since there are charger tabs (holes) in the bottom, remember the orientation if you use a drop-in charger. Use an Xacto knife or other thin blade and simply loosen (around the edges, like taking a cake out of the pan) and pry the bottom plate off. Once thats done, you can sometimes pop the batteries out by using a few sharp blows or alternatively just take some needle nose pliers and yank. Sounds brutal and is, but does work. I suggest that you replace all cells if they're easily available or you will get used to doing this. Incidentally, the diode / resistor protection circuit can be trashed and the bottom may not fully seat properly - a little RTV will hold it nicely. Portable phone batteries can be found cheaply and make good replacements, often come shrink wrapped and with leads - easier than tack soldering to nicads - which does work, but not well.

Good luck! 73, George VE3YV / K8HI

3353. Here is how to solder Nicads without tabs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: nv7v@burgoyne.com
Message-ID: <nv7v.64.0017B4AB@burgoyne.com>
Source record: 105092

Mike in Oregon wanted to know how to solder on nicads that did not have
a solder tab. Here is how.

Go to the plumbing supply store and get some solder paste.
The stuff I use is like a light grease. It is acid so treat is like
what it is. If you get some on your hands and scratch you'll
find out why....
It is the acid used in acid core solder. I know you aren't supposed
to use it in electronics but you gotta do what you gotta do.

Dip the end of your rosin core solder into the paste and solder away.
The fumes are nasty, don't breathe them. This works good on
corroded wires. Clean the tip of your iron on a seperate cloth so
you don't contaminate your sponge. You want to get the acid off
the tip as soon as you are done as it will eat away the tip.

I've been doing this for years and it works great.

Steve

3354. Re: Looking for SRF2926 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: "Earl E. Andrews" <earlve3ab@igs.net>
Message-ID: <4odu1a$hk1@nntp.igs.net>
Source record: 105168
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

i think these are a similar animal to what i once i had to replace in a small mobile hf amp (yaesu]. mine were an srf type for hf and they are probably a proprietory device. i phoned motorola and had no luck''they couldn't release the information. What i ended up doing is making photocopies out of a motorla data book;;taking an educated guess at what might replace them. i narrowed down the search to a few possibilities. considerations were 1) npn or pnp 2] what usually drives this amp how much power does it usually see gg into the transistor 3] match up some of the motorola data book schematics with the units schematic and find any similarities. 4) how much gain does the amp usually provide check the specs on the amp 5) how much output does the amp usually put out etc. using this kind of methodology i came up with a few good subs in the mrf series namely the mrf 454 and mrf 412 and a few others . they all would have worked fine i think but i chose the mrf 412 because it was more rugged etc. if i was gg to spend that kind of money i might as well go ahead and lay out a few more bucks for the better type. ...if you would like''i could look up some subs for you if you can perhaps mail me info. i have a big computerized data base of semiconductors at work and i can research in my spare time ..iam good in callbook as ve3ab for several yrs now. 73s es gl earl...address = earlve3ab@igs.net

3355. Help homebrewing a mobile GPS antenna (quadrifilar?)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: SteveP@Dartmouth.edu
Message-ID: <SteveP-2705962215490001@ka3-92.dartmouth.edu>
Source record: 105169

Thanks for taking a few moments to read this, and maybe to respond...

I am looking to build a homebrew antenna that will function in the band used to receive GPS signals. Basically, I have an inexpensive GPS receiver that I occasionally use in my vehicle. The vehicle roof and all the other metal provides a darn good shield, so no signals are rx.

Commercial units are available (for $150!) that purport to receive these frequencies. I've seen one , and they're small round, and since I didn't own it, I couldn't crack it open to take a look see.

So if you have any advice, hints, directions, or references I could look up, I'd be most appreciative. You can either post here, or email direct to SteveP@dartmouth.edu.

If I get a good response, I'll compile the information neatly, and repost here, and place it on the WWW.

Thanks and 73s

Steve Peters
N1TYE
Lebanon, NH

3356. Re: Tempo-1 crystals

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: "Earl E. Andrews" <earlve3ab@igs.net>
Message-ID: <4odt3p$hhi@nntp.igs.net>
Source record: 105170

i may have a crystal or two left over from my yeasu ft7 and i think it is perhaps one of these freq. they are heteryodyne crystals for operation of 10 meters are they not? ill check into it this weekend when i go up to my cottage. 73 s earl ve3ab

3357. How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: mreiney@hevanet.com
Message-ID: <4oe309$nej@vista.hevanet.com>
Source record: 105171
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

I need to weld solder tabs onto a bunch of nicad batteries.
Thought I'd ask before I risk electrocution.

I don't have access to a proper welder, so I'd like to "make do".

I thought I'd jig up a couple of sharp pointed nails and press them against the strap up against the battery. I'll manually discharge a big cap into the nails. I have no idea how much pressure or how much energy will be required.

What's wrong with this picture? Anyone successfully welded tabs? Details please.

On a related topic, I also have a bunch of nicads with tabs for push-on connectors. I need to save some space by soldering to the tabs. Of course, they won't solder (now I know why they were cheap), probably stainless. Is there a flux for soldering stainless?

Thanks, miker

3358. Re: mods for FT-2500M

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: walnut@bcl.net
Message-ID: <Ds3rIp.40u@bcl.net>
Source record: 105172

radio2talk@aol.com (Radio2talk) wrote:

>I am looking for any and all mods for the Yeasu FT-2500M.
>Ones to extend receive would especiallly help

>TNX
>Martin N9ZTZ

>e-mail at Radio2talk@aol.com
I have a ft-2500 there is a little yellow wire under the top cover (i
believe it is yellow anyway) all i did was clip it and that unlocks
the vco therefore you should have both extended recieve and transmit.
if this yellow wire is not obvious to you just e-mail me for more
info. walnut@bcl.net kb9loa

3359. WTB, receive xtal for Kenwood TH-21AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: mreiney@hevanet.com
Message-ID: <4oe9fq$1dr@vista.hevanet.com>
Source record: 105173
Cross-posted to: rec.radio.amateur.homebrew,REC.RADIO.AMATEUR.EQUIPMENT

I need a receive crystal for a Kenwood TH21-AT handheld.
It's 61.84964 MHz or thereabouts. Designated X2.
thanks, miker

3360. homebrew GPS receiver ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: jmfriedt@vaise.ens-lyon.fr
Message-ID: <4oeemq$4da@cri.ens-lyon.fr>
Source record: 105174

I was wondering if it was possible to build a simple
GPS receiver. Good accuracy is not required (ie 1km
precision is enough). That would be to install in a
balloon so I would rather not use a commercial GPS
system.

Any help appreciated, thank you

--

Jean-Michel FRIEDT jmfriedt@ens.ens-lyon.fr
http://www.ens-lyon.fr/~jmfriedt/index.html

3361. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <4oemqv$rb3@excelsior.flash.net>
Source record: 105175
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

mreiney@hevanet.com (miker in Tigard, OR.) wrote:

>I need to weld solder tabs onto a bunch of nicad batteries.
>Thought I'd ask before I risk electrocution.

>I don't have access to a proper welder, so I'd like to "make do".

>I thought I'd jig up a couple of sharp pointed nails and press them
>against the strap up against the battery. I'll manually discharge a
>big cap into the nails. I have no idea how much pressure or how much
>energy will be required.
Sounds dangerous to me! I had a similar situation several years ago
and decided to try to find a low-temp way to solder the tabs on.
Radio Shack had some liquid solder in a syringe that works at a pretty
low temperature. I used it with a good hot gun (140w Weller) and so
far they are still working.

Be careful not to heat up the cells any more than you have to!
73,
Kerry Miller
kmiller@flash.net

3362. Re: Needed: FM stereo multiplex ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: Chris FormyDuval <cdformyd@eos.ncsu.edu>
Message-ID: <31AABAA8.4554@eos.ncsu.edu>
Source record: 105176
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Michael Fickenscher wrote:
>
> As stated in the subject, I need to get my hands on a couple of stereo FM
> multiplexor chips (and their appropriate demultiplexor IC). Additional
> requirement: must be cheap, as these are for weather balloons that I will
> probably never see again after launch.
>
> Please email me with any ideas on where I can get these chips.
>
> --
> Michael Fickenscher --
> Undergraduate Student, Great wits are sure to madness near allied,
> Electrical Engineering And thin partitions do their bounds divide.
> University of Nebraska-Lincoln - Dryden, "Absalom and Achitophel"
> ----------------------/ mfick@engrs.unl.edu /--------------------------
Try the homepages of National Semiconductor, Harris, TI etc. You should
come up with several choices as well as datasheets and app. notes.
Chris

3363. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: dozier@copland.udel.edu
Message-ID: <4of1sg$o2e@copland.udel.edu>
Source record: 105177
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

In article <4oe309$nej@vista.hevanet.com>,
miker in Tigard, OR. <mreiney@hevanet.com> wrote:
>
>I don't have access to a proper welder, so I'd like to "make do".
>
With a proper welder the energy would probably be between 20 and 80
watt-seconds. Spot welders have a short. med and long timing mode.

>I thought I'd jig up a couple of sharp pointed nails and press them
>against the strap up against the battery. I'll manually discharge a
>big cap into the nails. I have no idea how much pressure or how much
>energy will be required.

Use copper. I would suspect that any other material you woulld weld the
"nail". I would suggest compressing the tabs between 2 copper rods, 1/8
to 1/16 diameter. Turn on power elsewhere.

> >What's wrong with this picture? Anyone successfully
welded tabs? >Details please.
>
>On a related topic, I also have a bunch of nicads with tabs for
>push-on connectors. I need to save some space by soldering to the
>tabs. Of course, they won't solder (now I know why they were cheap),
>probably stainless.

All the Nicads tha I have seen don't readily solder. The tab is probably
nickel. Gold plating the nickel should allow soldering.
Gold will stick well to nickel.

>

3364. Re: "Blue Steel Razor" radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-28 00:00:00 UTC
From: Chris FormyDuval <cdformyd@eos.ncsu.edu>
Message-ID: <31AAB9F9.2E15@eos.ncsu.edu>
Source record: 105178

JOHN PHIPPS wrote:
>
> In a previous article, rjohns@eexi.gr (Rod C. Johnson) says:
>
> >
> >Its your fault!!! I thought I got crystal radios outta my system last
> >year after my umpteenth attempt to build one failed. Now I read about
> >chemical detectors and you got me started thinking about winding wire
> >and scrounging for earphones.
> >
> >I'm a chemist by training and the idea of a 'solution' detector really
> >intrigues me. Any idea where I could find more information???
> >
> >Rod
>
> I'm virtually certain that the acid used was nitric; that a small gage
> Pt wire was used to barely touch the surface (when it did touch, the
> wire curled up). Whether surface tension of the acid (molality unknown)
> played a part I don't know. I was STRONGLY discouraged by my parents
> from messing with nitric acid....Can't remember the book I read this
> in, but it was ancient when I read it.

From a book on Deforest, he experimented with various detectors
including alcohol (maybe even beer), (it only worked for a few
minutes),and bunsen burner type flames before inventing the triode.
I think the name may be something like Deforest: Father of radio.
Hope this helps.
Chris

3365. old morse code key source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: rooster@iglou.iglou.com
Message-ID: <Ds546I.Hnx@iglou.com>
Source record: 105093

does anyone have a source of good or better quality morse code keys?
the old ones that went up and down, all mechanical, sometimes made of
brass?

thanks in advance.

 OLX 2.1 TD no good deed goes unpunished

--
rooster

3366. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: anthonys@ix.netcom.com
Message-ID: <4og7fs$pjd@dfw-ixnews7.ix.netcom.com>
Source record: 105094
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In <charlie-2805961627350001@europa04.netdepot.com>
charlie@netdepot.com (Charlie Fortner) writes:
>
>I'm planning to put up a 250 ft (approx. full wave 80m) wire dipole
and
>feed it with ladder line for use as a multiband antenna. If the legs
are
>more than 90 degrees apart in the horizontal and veritical planes,
will
>the radiation pattern be substantially different that if it was 180
>degrees in each plane? Any other suggestions appreciated. Thanks.
>
>73 de KF4GJQ (Charlie Fortner)

Charlie, you don't say how high at the apex! This makes a
considerable difference too. Yes, the radiation pattern will be
different at the fundamental freq and very different at the harmonics
but if you put up such "long one" don't worry about it ...just use it
and make your observations! Good luck

-=Tony=-

3367. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Michael Abbott <km4id@worldnet.att.net>
Message-ID: <4ogj3l$mih@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105095

You'll be miles ahead if you could use the 3/4 inch CATV hardline. If you decide to use it, let me know and I'll get the matching transformer info to you.

3368. Re: Looking for SRF2926 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: x0schech@ti.com
Message-ID: <4ogntg$6d2@news-f.iadfw.net>
Source record: 105096
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <4od7hf$as8@nnrp1.news.primenet.com>,
markem@primenet.com says...
>
>I'm trying to locate a SRF2926 transistor to repair
the PA in a UHF repeater.
>I can't find them listed in any of my catalogs (which
are not extensive).
>Anyone know of a source or replacement for them?
Anyone have any spares laying
>around? It's a late 70's vintage Aerotron unit, if
that helps.
>
>Thanks & 73... Mark AA7TA

What you've got is a Motorola transistor that was a
"special". SRF's usually have a standard counterpart
(such as an MRF455 in the case of an HF power
transistor) but were house-marked for a particular
company's application due to a special requirement.
They may be graded for a certain beta range or, more
likely in your case, for having more tightly controlled
UHF parameters than a standard MRF part would have from
any given lot.

Sometimes, companies have parts specially marked just
to discourage copycats. The silly part is that
these special parts often have the Motorola "bug"
printed right on the top (although Motorola probably
won't release the actual cross reference information
for one of their customer's source control drawings).
WHat you might do is get hold of an old Motorola RF
Devices handbook and just do some detective work.

You probably know the output power and frequency range
of the device; you know or can measure the Vcc (and
double it to put you in the ballpark of the proper Vcex
ratings for a Class-C UHF power amp). THe case type is
obtainable by simple observation and comparison to
what's in the catalog.With this info, you can generally
cross-reference the device to a standard part with a
minimum amount of trouble and with a high degree of
certainty.

Hope this helps!

73's

Geoff NQ7A

3369. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ogtug$ar5@crash.microserve.net>
Source record: 105097
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

charlie@netdepot.com (Charlie Fortner) wrote:

>I'm planning to put up a 250 ft (approx. full wave 80m) wire
>dipole and feed it with ladder line for use as a multiband antenna.

What method are you planning to use to drive the ladder line? A
balun will probably be less than satisfactory due to the high
impedances involved on some bands.

73,
Jack WB3U

3370. Re: NEW! Radio Equipment Spec Sheets at Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ogtgs$a9a@crash.microserve.net>
Source record: 105098
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

mreiney@hevanet.com (miker in Tigard, OR.) wrote:

>Neat web page. Lots of good stuff.
>But it takes forever to load... like 2 minutes when the web is
>loaded. Would it be possible to put all the neat graphics in a
>sub-page, or at least show the links before posting the graphics so
>we don't have to wait?

If you're using Netscape, why not set it so it only loads graphics
on demand? That's easier than trying to convince Web page authors
to change their designs.

73,
Jack WB3U

3371. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <4oh1ek$d22@dfw-ixnews7.ix.netcom.com>
Source record: 105099

In <4ogj3l$mih@mtinsc01-mgt.ops.worldnet.att.net> Michael Abbott
<km4id@worldnet.att.net> writes:
>
>You'll be miles ahead if you could use the 3/4 inch CATV hardline. If
you decide to
>use it, let me know and I'll get the matching transformer info to you.
>
I hate to post when I am unsure of my understanding of these things.
But still, Can't tapered coax sections be used to match most any
impedance to any other impedance over a modestly broad bandwidth? What
I envision is something that would be say over 10 diameters long,
possibly less than 1/10th wavelength. What I have considered doing
when I get a round tuit is taking a length of the smaller center
conductor and wrapping it with a skinny triangle of metal foil to
create a taper to the larger center conductor. Over this, I would
squeeze a length of the larger dielectric molded to the shield taper.
Then I would form the larger shield to fit the taper.

Am I just blowing smoke or could this be a workable way to fabricate
coaxial matching sections???
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

3372. Class-C RF transistors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <8333697066401@hcol.humberc.on.ca>
Source record: 105100

I've always wondered what makes an RF transistor a "Class-C" device
versus linear ? I always thought that it was the external biasing that
places a transistor in a different mode of operation yet some
transistors in the databooks are spec'ed for Class-C operation.
I suspect it has to do with the die-fab. What would happen if one of
these transistors was biased class AB for SSB use ?

Thanks...
Hugh Duff VA3TO Toronto

 NFX v1.3 [000]

3373. Basic Electronics Course

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: SIXPENCE@worldnet.ATt.NET
Message-ID: <2.2.16.19960529091439.2257ac9e@postoffice.worldnet.att.net>
Source record: 105101

Looking for a good, inexpensive, course on Basic eltronics. Anyone taken or know of one, especially home study type. Please reply direct <SIXPENCE@worldnet.att.net>.
72 y Paz ..Grover KQ4AL
QRP WAS = 34
QRO WAS = 49-Hawaii
<SIXPENCE@worldnet.att.net>

3374. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Edward Lawrence <eal>
Message-ID: <4ohi4l$137@fcnews.fc.hp.com>
Source record: 105102

Ted, you are on the right track, but at 144 Mhz the lengths required get slightly unreal.
However, get a copy of Jasick and Johnsons "Antenna Engineering Handbook". Look up coaxial matching sections, in particular the part about two 1/4 wl marching sections in series, where Hams generally use one. The basic idea is rather simple. Say you are matching from 50 to 100 ohms. With one 1/4 wl. transformer, you would use about a 70 Zo line for the transformer.
With two 1/4 wl. sections, the first would be about 60 ohms, and transform the 50 ohms to 70 ohms. The second would be about 83 ohms, and transform the 70 ohms to 100 ohms. Since this is a total of 1/2 wl. the whole thing turns out to be VERY broadband compared to a single section. You can see that the extention of this idea leads directly to your tapered line. This is all from memory, so go back to the textbook and check it out there.
Cheers! Ed WA5SWD

3375. Anyone got a service manual for President Lincoln??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Erik Finskas OH2LAK <finskase@ee.port.ac.uk>
Message-ID: <31AC5EAF.71AF@ee.port.ac.uk>
Source record: 105103
Cross-posted to: rec.radio.amateur.equipment,rec.radio.swap,rec.radio.amateur.homebrew

As the subject tells, I am looking for a service manual for President
Lincoln.
If you have one, please mail me. I would be interrested of a copy.

Erik
--
Erik Finskas M1AAJ & OH2LAK
Email Finskase@ee.port.ac.uk
Lakki@clinet.fi
University of Portsmouth, UK
Department of Electric and Electronic Engineering

3376. Re: Want Source fo AD7008 DDS chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Tony Wallace <wallacet@fhs.csu.McMaster.CA>
Message-ID: <Pine.HPP.3.91.960529095722.14052A-100000@fhs.csu.McMaster.CA>
Source record: 105104

I too would go for 3 to 5 @ these prices!

Tony Wallace, wallacet@ihis.cmh.on.ca
wallacet@fhs.csu.mcmaster.ca

On Tue, 28 May 1996, Ed Ganger wrote:

> In article <4od6gi$apj@peabody.colorado.edu> tiemann@spot.Colorado.EDU (TIEMANN BRUCE)
writes:
> >How many is "small production quantities?" Any chance a r.r.a.h. group order
> >for AD7008s could be placed? For $7 each, I'd get several. Or is there a
> ^^^^^^^^^^^^^^^^^^^^^^^^
>
> Count me in on any "group buy" ... I would be good for 3-5 at that price.
> Regards,
> Ed KB4ORA
>
>

3377. Re: Needed: FM stereo multiplex ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Rick Cramer <rickc@eden.com>
Message-ID: <4oi09i$1b0o@newsgate.sps.mot.com>
Source record: 105105
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

I too have been trying to find a stereo mx chip.
Does anyone know of any more information... the web sites mentioned
below were not much help.

Rick Cramer
rickc@front242.sps.mot.com
N5HVT

Subject: Re: Needed: FM stereo multiplex ICs
From: Chris FormyDuval, cdformyd@eos.ncsu.edu
Date: Tue, 28 May 1996 01:34:49 -0700
In article <31AABAA8.4554@eos.ncsu.edu> Chris FormyDuval,
cdformyd@eos.ncsu.edu writes:
>Michael Fickenscher wrote:
>>
>> As stated in the subject, I need to get my hands on a couple of stereo
FM
>> multiplexor chips (and their appropriate demultiplexor IC). Additional
>> requirement: must be cheap, as these are for weather balloons that I
will
>> probably never see again after launch.
>>
>> Please email me with any ideas on where I can get these chips.
>>
>> --
>> Michael Fickenscher

>> Undergraduate Student, Great wits are sure to madness near
allied,
>> Electrical Engineering And thin partitions do their bounds
divide.
>> University of Nebraska-Lincoln - Dryden, "Absalom and
Achitophel"
>> ----------------------/ mfick@engrs.unl.edu
/-------------------------
>Try the homepages of National Semiconductor, Harris, TI etc. You should
>come up with several choices as well as datasheets and app. notes.
>Chris

3378. Re: WTB, receive xtal for Kenwood TH-21AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Rick Cramer <rickc@eden.com>
Message-ID: <4ohvpt$g5c@newsgate.sps.mot.com>
Source record: 105106
Cross-posted to: rec.radio.amateur.homebrew,REC.RADIO.AMATEUR.EQUIPMENT

In article <4oe9fq$1dr@vista.hevanet.com> miker in Tigard,
mreiney@hevanet.com writes:
>I need a receive crystal for a Kenwood TH21-AT handheld.
>It's 61.84964 MHz or thereabouts. Designated X2.
>thanks, miker

I also have a Kenwood TH-21-AT. I have been trying to find out
where I can get a PL tone circuit for it. In addition, I need
to know where in the HT it goes. Can anyone help me?

Please send email!

Rick Cramer
N5HVT

3379. Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: mikestewart@4YOU.NET
Message-ID: <4oi13i$163@zombie.nortel.net>
Source record: 105107

hello,

A co-worker and I are working on using the magnatron from a microwave to transmit back and forth to each other. but we've run into a problem when it comes to modulating the magnatron. if anyone has any info on this subject please reply..

thanks,
mike stewart
mikestewart@4you.net

3380. batteryless radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: ron willis <rdw79936@pegasus.cc.ucf.edu>
Message-ID: <31AC1AA6.3054@pegasus.cc.ucf.edu>
Source record: 105108

Am looking for batteryless portable radio. Heard of this item (crank up flywheel, which spins generator, which powers radio) on NPR and didn't get acquisition details. Living in Florida, at the start of the hurricane season, and am looking for emergency source of news, weather info, etc.

3381. Re: ARRL synch. detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <31ACCCF1.7E96@erols.com>
Source record: 105109

I built one with some freinds. We put it in an FRG-100 and it worked
pretty well after we tweaked some of the parts a bit. I don't think
the original article had the part values all that close. But it doesn't
matter. Just get an assortment of parts that are reasonably close.
If your varactor capacitance ranges are wide enough, you can make up
for pretty much any other drift you might encounter.

73,

Jake Brodsky, AB3A
"Beware of the massive impossible!"

3382. Re: homebrew GPS receiver ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: gandt@ccom.net
Message-ID: <4oi5d0$i4b@Holly.aa.net>
Source record: 105110

You can buy GPS units below $250 now. If that is too much, then go the beacon route and track it with a DF.

It would be nice if someone delivered a brand new GPS via balloon to me. Please send it to N 47.03 E 127.32.

3383. Re: Anyone got a service manual for President Lincoln??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Maurice R Baker <mrbaker@hodcs.att.com>
Message-ID: <31ACAABD.28CF@hodcs.att.com>
Source record: 105111
Cross-posted to: rec.radio.amateur.equipment,rec.radio.swap,rec.radio.amateur.homebrew

Erik Finskas OH2LAK wrote:
>
> As the subject tells, I am looking for a service manual for President
> Lincoln.
> If you have one, please mail me. I would be interrested of a copy.
>
> Erik

Perhaps the Walter Reed Army Medical Center or Bethesda Naval Hospital in
Washington, DC could supply one.

Sorry, couldn't resist :-)

WA3ZXO

3384. Re: Class-C RF transistors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: kn5s@lascruces.com
Message-ID: <4oidd2$n89@chile.lascruces.com>
Source record: 105112

hduff@hcol.humberc.on.ca (Hugh Duff) wrote:

>I've always wondered what makes an RF transistor a "Class-C" device
>versus linear ? I always thought that it was the external biasing that
>places a transistor in a different mode of operation yet some
>transistors in the databooks are spec'ed for Class-C operation.
>I suspect it has to do with the die-fab. What would happen if one of
>these transistors was biased class AB for SSB use ?

>Thanks...
>Hugh Duff VA3TO Toronto

>---
> • NFX v1.3 [000]

I don't know the theory, but I have been using the Class-C rated 175 MHz 2N5641 in homebrew gear for ten years on HF, 6M, and 2M, biased for A or AB on SSB, with excellent results.

Why? I got used to them in my old Signal/One CX7 (1969), where they are used that way, and I had spares on hand.

The 5642 and 5643 have higher power ratings and probably will also do well. MOT carried them for years; if they are out now, Richardson might have still them.

73,

Mark, KN5S DM62

--

Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

3385. Re: old morse code key source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Greg Lohstroh <glohst1@grfn.org>
Message-ID: <Pine.SOL.3.91.960529173323.2067A-100000@freenet.grfn.org>
Source record: 105113

Tucker electronics 1-800-559-7388

On Wed, 29 May 1996, Rooster wrote:

> does anyone have a source of good or better quality morse code keys?
> the old ones that went up and down, all mechanical, sometimes made of
> brass?
>=20
> thanks in advance.
> ---
> =FE OLX 2.1 TD =FE no good deed goes unpunished
> =20
> --=20
> rooster
>=20
>=20
>=20

3386. Re: Anti-freeze in CanTenna???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4oigt8$7us@blixen.aquilagroup.com>
Source record: 105114

A timely topic.

I just helped my mom clean out her house ready to sell, and FINALLY found my old Cantenna.

I vaugely remember buying the oil at some ham store in Denver, but have no idea what it was. I remember they had it bulk, in a 55 gal drum, and I had to bring a jug to take it home in.

Does anyone know a cheap simple test for PCBs, or, failing that, know exact year when the stuff was banned?

Guess I'll post to a chemestry group as well.

Thanks for any help,
73, Kevin

3387. Mobile Noise Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: csmith1@ccgate.hac.com
Message-ID: <4oic8d$gcc@newsroom.HITC.COM>
Source record: 105115
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I've grounded the HF rig with heavy braid, direct-connected to battery with No. 10 wire, and grounded the hood, engine (2 places) and exhaust pipe to the body and/or frame. The antenna is mounted on a well-grounded plate. Everything works great, except for a noise problem I can't seem to locate. I tried an alternator filter (heavy series coil and shunt cap) that didn't do anything--so, that, along with disconnecting the antenna making it go away makes me think it's radiated noise.

I get a rushing hash (like white noise) only when the engine is under load. It is enough to wipe-out weaker stations, but not those louder ones. I throw in the clutch and it goes away, even if I then race the engine (leads me to think it's not ignition, but some sender unit--perhaps fuel injection electronics radiate only under load?).

What device or other cause might do this? I'd like some help before trial and error decoupling whatever I find under the hood <g>)

3388. Mitrek Synthesizer Conversion for 6 m Operation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Francis Lyn <lynf@candu.aecl.ca>
Message-ID: <4oi2ve$2ot@shpk1.candu.aecl.ca>
Source record: 105116

Hi Homebrewers,

I've just finished the technical writeup describing the steps required to convert a Motorola Mitrek VHF transceiver to amateur 6 m band operation, and would like to make the information available to anyone interested in converting their own radios.

The information consists of three pages of diagrams (double sided pages), plus two document files and the controller source code files on a 3.5 in FD. Since I cannot afford to pay for postage and cost of disc, photocopying etc. to send the material to those interested, my question is: Can anyone suggest a reasonable way of posting this information on the net (anonymous ftp site?) and if so which site and how to send the information to the site administrator?

For the curious, the conversion uses a Motorola MC145170 VHF frequency synthesizer chip, switched between a transmit and a receive VCO, the lot controller by an 8031 microcontroller. The VCOs are built from converted transmit and receive channel elements. Six pre-set channels are provided (four used), selected by the original control head. Everything fits inside the transciever. Two rigs have undergone the conversion and are providing very good service on the local club's new 6 m repeater.

Your comments are appreciated.

Francis Lyn VE3TDL - Toronto

lynf@candu.aecl.ca

3389. Mitrek Synthesizer Conversion for 6 m Operation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Francis Lyn <lynf@candu.aecl.ca>
Message-ID: <4oi2ud$2ot@shpk1.candu.aecl.ca>
Source record: 105117

Hi Homebrewers,

I've just finished the technical writeup describing the steps required to convert a Motorola Mitrek VHF transceiver to amateur 6 m band operation, and would like to make the information available to anyone interested in converting their own radios.

The information consists of three pages of diagrams (double sided pages), plus two document files and the controller source code files on a 3.5 in FD. Since I cannot afford to pay for postage and cost of disc, photocopying etc. to send the material to those interested, my question is: Can anyone suggest a reasonable way of posting this information on the net (anonymous ftp site?) and if so which site and how to send the information to the site administrator?

For the curious, the conversion uses a Motorola MC145170 VHF frequency synthesizer chip, switched between a transmit and a receive VCO, the lot controller by an 8031 microcontroller. The VCOs are built from converted transmit and receive channel elements. Six pre-set channels are provided (four used), selected by the original control head. Everything fits inside the transciever. Two rigs have undergone the conversion and are providing very good service on the local club's new 6 m repeater.

Your comments are appreciated.

Francis Lyn VE3TDL - Toronto

lynf@candu.aecl.ca

3390. Help! 70MHz Amplifier???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: Matt Bohn <bohn@unm.edu>
Message-ID: <31AC6097.503D@unm.edu>
Source record: 105118

Hello,
I am a physics graduate student and I need 200 watts at 70MHz. I have tried to build an amplifier designed for 20 MHz and it didn't work very well (yes, I did change all the tank circuits to 70 MHz). If I purchase a 6 meter amplifier, should I be able to change it to amplify at 70 MHz? Or would a it be better to buy a 6 meter kit and adjust it for 70 MHz? I do have 30 watts of 70 MHz available.

The application is to drive a pockel cell (essentially a capacitor) inside a laser cavity and I need to apply 600 volts at 70MHz. I am currently working on an impedance matching transformer to convert from 50 ohms to the high 5000 ohms of the tank circuit that the pockel cell is in. Actually that isn't going to well either. The toroid gets rather hot when I apply 30 watts of 70MHz and doesn't seem to multiply the voltage. The toroid appears to be the correct type: it is green/white, a T130-12.

Matt Bohn
http://www.unm.edu/~bohn/fs.html
Graduate Student
Optical Sciences Program
University of New Mexico
800 Yale SE
Albuquerque, NM
87131

3391. Re: Looking for SRF2926 Transistor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-29 00:00:00 UTC
From: "Dale \"Squeak\" Porray" <ad7k@accessnv.com>
Message-ID: <31AD25B3.7D94@accessnv.com>
Source record: 105119
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

M. Monninger wrote:
>
> I'm trying to locate a SRF2926 transistor to repair the PA in a UHF repeater.
> I can't find them listed in any of my catalogs (which are not extensive).
> Anyone know of a source or replacement for them? Anyone have any spares laying
> around? It's a late 70's vintage Aerotron unit, if that helps.
>
> Thanks & 73... Mark AA7TA

Try RF Parts Company, in San Marcos, CA - they are a good source for lots
of power transistors.

73,

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

3392. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <4ok7gl$763@news.scruz.net>
Source record: 105029
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

In article <4oje7k$9fk@ccnet2.ccnet.com>,
Bob Wilkins ~ n6fri <rwilkins@ccnet.com> wrote:
>Richard Steven Walz (rstevew@armory.com) wrote:
>: P.S. L.O.S.A. is a mail list for stamp application technical notes,
>: and it is considered quite kosher to post in this neighborhood of the
>: UseNet.
>
>While most folks use a damp sponge to apply stamps, it might be more
---
The Parallax BASIC Stamp is a microcontroller, you insipid Loser!
The L.O.S.A is the mailing list for their applications. It is posted
to electronics related groups once in a while. It is a Mailing List,
as in it HAS No ftp site or web site. It needs to be posted
periodically as does places where to find FAQ files need to be
posted!
-Steve

>kosher to just have a pointer to your ftp sites or learn the html code
>and put up a web page. Try to send your foul language to the hams to
>e-mail, or better yet put it in an audio file on your web server.
>In this neighborhood there are those who want to lick stamps...
>--
> Bob Wilkins home n6fri@uhf.org
> Berkeley Hills, California work bob@cave.org
> CM87uv play n6fri@n0ary.#nocal.ca.usa.noam

It was you clowns who started trolling over here on sci.electronics.*
looking for trouble! These *GROUPS* don't post the LOSA notices! Get
your damned attribution skills honed a little better! If you want to
come looking for trouble, I'll tell you to go fuck yourself, and lick
your ass while you're at the stamps, eh! If you don't know these
words, look 'em up. They're in the OED!!
-Steve Walz rstevew@armory.com
P.S., I don't know why these whiners come here looking for trouble with
their X-Posting line identical to the Newsgroup: line! I just delete
'em! Serves them right! He wasn't from around here! If you lot want to
see nastiness, let that idiot live. If not, email your crap to him,
not me. Mine now goes to the Justice Department if you've been warned
before, and you'll be barred from further email to me if you TRY to take
this public issue to private email!! Respond in the public light of
day, or keep your mouth shut! Cheezeball anon-remailers have been
blocked.
-Steve

--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com

3393. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4okgg5$9d6@news.calweb.com>
Source record: 105030

mikestewart@4YOU.NET (MIKE STEWART) wrote:
>
> hello,
>
>A co-worker and I are working on using the magnatron from a microwave to
>transmit back and forth to each other. but we've run into a problem when it
>comes to modulating the magnatron. if anyone has any info on this subject
>please reply..
>
> thanks,
> mike stewart
>mikestewart@4you.net

I have also thought about doing this. I believe that you will have to stick to some type of digital modulation such as CW. If you build a pulse generator you can modulate the pulse position (FM) or pulse width (AM). In both cases the pulse rate must of course be at least two times the highest modulating frequency to allow filtering of the received signal. The RF frequency of the magnatron is fixed by the cavities inside the tube so there isn't much you can do. I haven't tried this but I believe you can lower the power by lowering the voltage and reducing the magnetic field.

If you get things to work I would like to see a posting with the results

Bill K7NOM

3394. Re: WTB, receive xtal for Kenwood TH-21AT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4oknpu$6n5@mksrv1.dseg.ti.com>
Source record: 105031
Cross-posted to: rec.radio.amateur.homebrew,REC.RADIO.AMATEUR.EQUIPMENT

In article <4oe9fq$1dr@vista.hevanet.com>, mreiney@hevanet.com says...
>
>I need a receive crystal for a Kenwood TH21-AT handheld.
>It's 61.84964 MHz or thereabouts. Designated X2.
>thanks, miker
>

Mike,

Have you called East Coast Transistor? They're the official parts outlet for Kenwood. How about calling JAN Crystal, International, or some other crystal maker? I'd estimate you could get one for about $10 from most makers, maybe a bit more for the Kenwood part.

BTW... if you decide the TH-21AT isn't worth fixing, I might be interested ib acquiring it as a spare parts source for my TH-21AT.

73 de KC5NG (Dean)

3395. Re: watkins-Johnson

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4okp21$9a5@newsgate.sps.mot.com>
Source record: 105032

bender@doemain (Michael Bender) wrote:
>angel vilaseca (100604.1242@CompuServe.COM) wrote:
>: Looking for data about the following travelling wave tube:
>: Watkins-Johnson WJ-3104
>
>Have you tried Watkins-Johnson? They have an office in Scotts Valley,

An interesting anecdote came from the North Texas Microwave Society a few years back -- I don't have any names, so this may be apocryphal or even an Urban Legend.

It seems that a ham had received what appeared to be a TWT, but with no documentation and only the manufacturer's ID plate attached. As he was a serious microwave experimenter, he wanted to know what he had so he could hook it up and see if it was usable.

So he called the manufacturer.

"Yes, sir, we can provide some information on that unit -- can we get your address and phone number? We'll have to get back to you."

And they DID get back to him. Next morning, Federal agents appeared on his doorstep and confiscated the TWT. It had accidentally been improperly disposed of from one of the Dallas-area high tech skunk works defense contractors, and was classified super top secret, munitions-grade stuff.

They had been looking for it for a while, and just wanted it back.

So you see, it can be useful to call the manufacturer. They're usually quite willing to help identify an unknown part. And now, with the advent of cradle-to-grave responsibility for certain hazardous products, they have a legal requirement to identify and accept for return certain items. For example, the battery-operated ionization smoke detectors that contain a little dab of polonium.

N6OTQ

3396. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: wdr@world.std.com
Message-ID: <Ds8Cox.1En@world.std.com>
Source record: 105033

In article <4oi13i$163@zombie.nortel.net>,
MIKE STEWART <mikestewart@4YOU.NET> wrote:
> A co-worker and I are working on using the magnatron from a microwave to
> transmit back and forth to each other. but we've run into a problem when it
> comes to modulating the magnatron. ...

I am told there was an article on this years ago in '73' magazine but
I haven't found any library with back holdings this side of Amherst,
so I haven't pursued it.

73,
Bill Ricker N1VUX wdr@world.std.com "The freedom of the press belongs
http://world.std.com/~wdr to those who own one."--A.J.Liebling
N1VUX@KA1TUZ.FN42JH.MA.USA.NOAM (temporary?) n1vux@amsat.org
--
Bill Ricker N1VUX wdr@world.std.com "The freedom of the press belongs
http://world.std.com/~wdr to those who own one."--A.J.Liebling

3397. Re: watkins-Johnson

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4oktqi$mes@hpcvsnz.cv.hp.com>
Source record: 105034

Jim (jstrohm@texas.net) wrote:

: And now, with the
: advent of cradle-to-grave responsibility for certain hazardous
: products, they have a legal requirement to identify and accept for
: return certain items. For example, the battery-operated ionization
: smoke detectors that contain a little dab of polonium.

I've often wondered if any significant number of people actually _do_
ship their smoke detectors back to the manufacturer. I have this mental
image of walking into a post office to mail the package. "What's in the
package?" "Smoke detector." "I'm sorry, sir, but we can't accept
nuclear materials for shipment. You will have to contact a bonded,
licensed nuclear materials transporter. What did you say your name is?"
.. (I can only hope it ain't true.)

--
Cheers,
Tom
tomb@lsid.hp.com

3398. Data Conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: Thad Welch <welchtb.dfee@usafa.af.mil>
Message-ID: <4okte1$jpe@usafa2.usafa.af.mil>
Source record: 105035

I am trying to link two PCs via their serial ports using a wireless network. This is a senior design project for one of my students so I am not looking for a finished commercial product.

Our real interest is in the DSP based receiver so we don't want to spend to much time on the data converters. Most likely this will be a freespace optical link but an RF link would be very similar.

We will be starting at low data rates, 300 bps or slower but would like the ability to easily switch to higher data rates, 19200 bps or higher. We would like to be able to use the full range of data transfer rates available through a PC serial port. We need to packetize the data bits and have read about the AX.25 packet radio system. A number of sources discuss the use of a TNC (Terminal-Node Controller) to interface a PC with a HAM radio. The first component in a TNC is called a PAD (Packet Assembler and Disassembler). As we understand a PAD this bi-directional device packetizes the output data from the PC serial port and then interfaces to a modem/radio which makes up the rest of the TNC. We just need the PAD or any other device/system that will convert a PC serial port output to a bi-directional two wire (one signal and one ground) baseband digital communications system! We can then use this data stream to modulate whatever system we design.

Does anyone out there have a source for a schematic, chip set or kit to allow us to build this PAD circuit? Other solutions or suggestions to help with this data conversion problem would also be appreciated! Thanks in advance!

Thad Welch

This post in no way represents the opinion of the United States Air Force Academy, the United States Air Force or the United States Government. It is completely my own opinion and I take full credit and responsibility for it.

3399. wanted: Dec '89 "Ham Radio Magazine" article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: joe haas <joeh@rollanet.org>
Message-ID: <4oktpv$4ri@gamma.rollanet.org>
Source record: 105036

I am looking for an article that appeared in the Dec '89 Ham Radio issue. Its title was something like "Multi Megabit digital link...". The article describes how to us a set of gunnplexers for a high speed digital link. If anyone can provide a copy of this article, I would be most grateful.

Thanks,

Joe Haas
KE0FF
joeh@rollanet.org

3400. Re: batteryless radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4oku7t$4v0@nadine.teleport.com>
Source record: 105037

In article <31AC1AA6.3054@pegasus.cc.ucf.edu>,
ron willis <rdw79936@pegasus.cc.ucf.edu> wrote:
>Am looking for batteryless portable radio. Heard of this item (crank
>up flywheel, which spins generator, which powers radio) on NPR and didn't
>get acquisition details. Living in Florida, at the start of the
>hurricane season, and am looking for emergency source of news, weather
>info, etc.

Although the generator-powered radio sounds good from an ecological standpoint, I don't see its advantage in usefulness over a battery-operated one unless you're in a location where batteries aren't available. An unused alkaline battery will easily last for several years, longer if it's kept in the refrigerator or freezer. And one will run a radio for several hours. As I recall from an advertisement I saw, the generator-powered radio gives about ten minutes of play time for one of cranking. You may have other things you want to do during a hurricane besides spending 10% of your time cranking.

Roy Lewallen, W7EL

3401. Re: how get into ICOM battery packs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: tom Medlin <tcmedlin@cris.com>
Message-ID: <4okesm$8a4@tribune.concentric.net>
Source record: 105038

My old icom battery packs had screws in them. you must have newer units. I have experience with the yaesu batteries. I used a heat gun and pried it apart carefully. Also over the years i have found that it is a loosing battle to go into one of these packs and just change one or two cells. Usually in a week or two after all the work, another cell or two goes bad. you will find it much better to just replace all the cells at the same time. good luck, tom wa5kub take a look at my shack at http://www.cris.com/~tcmedlin

mac@cis.ksu.edu (Myron A. Calhoun) wrote:
>I have ICOM BP-82 and BP-84 battery packs which I really need to get into
>so I can replace a cell or two. If someone has already "chewed" his/her
>way into such a pack, I'd sure appreciate suggestions!
>
>--Myron.
>--
># Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
># PhD EE; Associate Professor (913) 532-6350 work 532-7353 fax 539-4448 home
># NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

3402. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4ol066$2sh@shellx.best.com>
Source record: 105039

In article <Ds8Cox.1En@world.std.com>, <wdr@world.std.com> wrote:
>In article <4oi13i$163@zombie.nortel.net>,
>MIKE STEWART <mikestewart@4YOU.NET> wrote:
>> A co-worker and I are working on using the magnatron from a microwave to
>> transmit back and forth to each other. but we've run into a problem when it
>> comes to modulating the magnatron. ...
>
>I am told there was an article on this years ago in '73' magazine but
>I haven't found any library with back holdings this side of Amherst,
>so I haven't pursued it.
>
>
There was an article on converting oven maggies for use as transmitters
in one of the early issues of Communications Quarterly. Sorry I don't
have the exact reference. I think the application was ATV.

Steve Muther WF6R
stevem@best.com
stevem@w6yx.stanford.edu

3403. Just enough to hang my. . .antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: Chuck Bland <BlandRanch@worldnet.att.net>
Message-ID: <4okud8$9st@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105040
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Greetings,

I'm in the process of hanging a dipole antenna, and I will be using ropes at the ends to suspend it.

What type of rope should I use? I live in Sacramento, CA. Hot, dry summers, rainy, windy winters. No snow.

73's

Chuck - n6dbt

3404. Re: Anyone ever hear of a TAD M8?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: Steve Kennedy <prografx@teleport.com>
Message-ID: <4okvf3$5mu@nadine.teleport.com>
Source record: 105041
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I had the pleasure of interfacing some voice encryption units to a pair of TAD M8 radios about
5 or 6 years ago. They sure were a solidly built radio! I was very impressed with them.

Unfortunately, I cannot help you on the mic pinout, but I DO remember the radio! TAD was based
in Washington state if I am not mistaken. Do they still exist?

Steve
WB7PSD

3405. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: ELA95CDH@shef.ac.uk
Message-ID: <4ol1ov$dkn@bignews.shef.ac.uk>
Source record: 105042
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

In article <4oe309$nej@vista.hevanet.com>, mreiney@hevanet.com says...
>
>I need to weld solder tabs onto a bunch of nicad batteries.
>Thought I'd ask before I risk electrocution.
>

There is a type of solder called "silver solder" available from Maplin
Electronics in England. It may be possible to obtain it elsewhere though.
I have successfully soldered onto battery contacts using this stuff.
A 40W iron should be used and a little bit of the silver solder applied.
Then it should be possible to solder onto this using normal solder. But
don't get the cells too hot as it won't do them any good.

Chris

3406. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: Chuck Bland <BlandRanch@worldnet.att.net>
Message-ID: <4okuue$9st@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105043
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

jackl@pinetree.microserve.com (WB3U) wrote:
> charlie@netdepot.com (Charlie Fortner) wrote:
>
>>I'm planning to put up a 250 ft (approx. full wave 80m) wire
>>dipole and feed it with ladder line for use as a multiband antenna.
>
>What method are you planning to use to drive the ladder line? A
>balun will probably be less than satisfactory due to the high
>impedances involved on some bands.
>
>73,
>Jack WB3U

A link-coupled tuner would do the job quite nicely. Sure, it may set
technology back about 30 years, but the system would be better than a
"mere balun".

Chuck - n6dbt

3407. Re: CB vs Marine VHF for mountain lakes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: joe haas <joeh@rollanet.org>
Message-ID: <4okv53$58v@gamma.rollanet.org>
Source record: 105044

In article <31A17499.5830@rcru.rl.ac.uk> Mike Willis, mjw@rcru.rl.ac.uk
writes:
>>
>> Jim Devenport WB5AOX wrote:
>> >
>> > My experience in this area is that there is little, if any, "bending" at
>> > any frequency above say 1.8 MHZ. Radio waves travel mostly in straight
>> > lines except in the case of high or VHF signals which tend to "bounce"
>
>
>Completely wrong. Refraction of VHF and up signals happens all the time,
>typically the bending puts the radio horizon at 4/3 the distance of the
>actual horizon over a smooth earth (e.g the lake). Evaporation increases
>the humidity and this increases the bending.
>
>Mike

Knife edge difraction is also very prominent at VHF and above. Given a
clean crest on a hill, and some careful aiming, you can cover the other
side remarkably well. This requires directional antennas (due to high
path loss) and a tree-less crest. More deatils in the ARRL handbook.

Joe
KE0FF

3408. Re: Ultra h. perf. receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4ol01a$3h@hpscit.sc.hp.com>
Source record: 105045

In article <bigr-3005960519190001@ip-pdx02-14.teleport.com>,
bigr <bigr@teleport.com> wrote:
>
>
>
>
>I have only done IMD testing at 14mhz on my preselector. Even then I am
>limited by IMD in my homebrew testing equipment, so I can only say that it
>does not lower the 112db 3rd order DR of the Makhinson front end.

I have found that to do this right, you need to make a noise power
ratio (slot noise) test. You can get fooled by only looking at 3rd order
IMD.

>I didn't like the need for the LO to be 2X higher I scrapped the original

Why? What's so hard about that?

>
>I decided to try a totally new approach, whereby the IF filter and IF amp
>were combined into one circuit comprised of four 4-pole filter sections
>with a MC1590+buffer stage between each of them. Thus the low system
>noise figure is set by the relatively low insertion low of the first
>filter section and the first MC1590. The signal gets progressively
>amplified and filtered by each succeeeding section- hopefully in a way
>that the increase in gain is offset by the increase in filtering so that
>the total circuit does not have any more IMD than a conventional IF
>filter/amp combination.

Outstanding idea.

>Rob. N3FT.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3409. Re: Basic Electronics Course

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: "Barry L. Eure" <ks4rt@concentric.net>
Message-ID: <31ADF397.6F4C@concentric.net>
Source record: 105046

Grover wrote:
>
> Looking for a good, inexpensive, course on Basic eltronics. Anyone taken or
> know of one, especially home study type. Please reply direct
> <SIXPENCE@worldnet.att.net>.
> 72 y Paz ..Grover KQ4AL
> QRP WAS = 34
> QRO WAS = 49-Hawaii
> <SIXPENCE@worldnet.att.net>

There is a very good book out authored by Stan Gibilisco and published by McGraw-Hill's TAB BOOKS division titled "Teach Yourself Electricity and Electronics"

72
Barry

3410. Re: Source 2 3/8" to 2 1/2" solid fg stock?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: joe haas <joeh@rollanet.org>
Message-ID: <4ol0cs$5hr@gamma.rollanet.org>
Source record: 105047

In article <4od0a8$ab3@doc.zippo.com> Peter Markham, writes:
> I am still looking for a source of 2 3/8" to 2 1/2" solid
>fiberglass rod stock, and engineering specs for the material.
>I intend to erect a Rohn HDBX, using the stock to isolate the
>tower. Any objective criticism or help, welcome.
>

This begs the question "why do you want to isolate the tower?"

First, insulating any vertically erected structure is a BAD idea from the standpoint of lightning protection. If you do this, you will need some SERIOUS shunt protection to keep lightning surges from being coupled into your shack via the feedline(s).

second, if you want to use your tower to radiate (hence, the need for isolation), you can do some interesting things at the base, while still using "standard" construction techniques. I'm not sure where I read this, but one neat trick is to put ferrite "beads" on each tower leg. The beads reffered to were old transformer cores (big ones) placed around each leg. The article noted that good results wree obtained just by piling a bunch of old transformers around each tower leg. This was for frequencies as low as 160M.

Just some thoughts...good luck,

Joe Haas
KE0FF

3411. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ol3rm$p24@crash.microserve.net>
Source record: 105048

drp@netcom.com (Randy Petersen) wrote:

>I have a project that I am working on which requires a 10 to 30 hz
>broad range white noise generator. I have found many subaudible tone
>generator circuits, but have not found a circuit that would put out
>10 to 30 hz as white noise. This will be used for some masking and
>attenuation experiments. If you can help please let me know.

Most white noise generators in this range also output over the
entire audio spectrum. If that's acceptable, you can probably
find something in a local library under acoustic testing.

If the generator you need must only output 10 to 30 Hz, I suspect
it will be a pretty sophisticated instrument. Perhaps a sound card
and computer program could generate a pseudo-random (white) noise
only in the desired range.

73,
Jack WB3U

3412. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-300596123843@160.205.101.24>
Source record: 105049

In article <drpDs6z6M.9CK@netcom.com>, drp@netcom.com (Randy Petersen)
wrote:
>
> I have a project that I am working on which requires a 10 to 30 hz
> broad range white noise generator. I have found many subaudible tone
> generator circuits, but have not found a circuit that would put out
> 10 to 30 hz as white noise. This will be used for some masking and
> attenuation experiments. If you can help please let me know.
>
> Thanks
> Randy Petersen
> San Jose Ca.
> drp@netcom.com

IMO the easiest approach for you would be to construct a PRBS (pseudo random bit sequence generator) based noise generator, with the appropriate low pass filtering to make the bit sequence look more analog in nature. If you can get your hands on a copy of Horowitz & Hill's _The Art of Electronics_, you'll find some useful info on PRBS generators contained therein. The easiest PRBS implementation would be through the use of National Semis' (soon to be obsolete) MM5437N IC, which is as far as I know still available from Digi-Key; however, I'm not sure that the spectral density of the MM5437's bit sequence will be dense enough for your purposes. If the MM5437N doesn't fit your needs, you could still build your own PRBS generator out of standard TTL or CMOS logic.

Another approach would be to build an analog noise generator based on a reverse biased transistor or diode junction. This type of generator needs amplification to bring the noise up to usable levels, and of necessity needs to use some AC coupling - if you choose this approach, you'll need to ensure that the cutoff frequency due to the AC coupling is at least an octave below your lowest frequency of interest.

Alternative approaches would include stumbling onto an old HP3722 series PRBS noise generator, or finding an old GR1390B analog noise generator in the surplus market. If you go with the GR1390B, you'll probably need to make sure that the low frequency cutoff is acceptable...it's supposed to be 5 Hz, but component tolerance/aging may have pushed the cutoff frequency upward to an unacceptable degree.

Just my $0.02 - good luck.

TGB

\\ The opinions expressed herein are my own. //

3413. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ol83l$vi@hpcvsnz.cv.hp.com>
Source record: 105050

Randy Petersen (drp@netcom.com) wrote:
: I have a project that I am working on which requires a 10 to 30 hz
: broad range white noise generator. I have found many subaudible tone
: generator circuits, but have not found a circuit that would put out
: 10 to 30 hz as white noise. This will be used for some masking and
: attenuation experiments. If you can help please let me know.

Of course, white noise is by definition very broadband; you only want a little over an octave bandwidth. You would do well to specify what you want to happen outside that 10-30Hz band. Assuming that you can come up with an acceptable filter (perhaps just a low-pass filter), it should be trivial to generate a bitstream to feed the filter to get you what you want. A binary shift register sequence should do the job; if you want to ensure some particular statistics (especially important if you are testing something that is both nonlinear and has memory), you may need additional help (email me...). Anyway, clocking at even 1k/sec would give you ample bandwidth to filter, and if the generator is, say, 32 bits, it won't repeat for a very long time...about a month and a half. You should be able to do it in software if you can guarantee that the update rate will be constant, outputting to a parallel or serial port on a PC. Or do it in hardware with a shift register and parity generator.

(Or if you have access to one of my employer's dynamic signal analyzers such as the HP3562, HP35665A or HP35670A, it will do the job directly...)

--
Cheers,
Tom
tomb@lsid.hp.com

3414. MC1466/1566 wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <4okvm4$528@newsbf02.news.aol.com>
Source record: 105051

Anybody have a few of the above regulators in their junk box that they'd care to convert to cash? I have supply (homebrew) that uses them, and they're obsolete part now.

answer to

johnsonhe@aol.com

W4ZCB

3415. Re: Ultra h. perf. receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: Gerhard Hoffmann <ghf@berlin.snafu.de>
Message-ID: <4ol9hk$o1t@unlisys.unlisys.net>
Source record: 105052

bigr@teleport.com (bigr) wrote:
>
> I am looking to exchange ideas/schematics/etc. with others who are
> building ultra high performance receivers.

> 1. Varactor tuned preselector. Three tunable relay switched sections.
>
> Note: it is possible to build varactor tuned preselectors that do not
> compromise high dynamic range front ends. Key is paralleling diodes,
> using low impedance, and not paying attention to poorly thought out
> articles by ARRL staff. :)

I have built a preselector from large Siemens K1 pot cores.
Performance on 160 and 80 is impressive; 40m still has too much
loss (not that 16 dB would hurt badly on this band). The upper
bands are for further study.

The 80 meter filter is switched in 4 subranges, each 80 KHz wide
with a flat top. It's a standard top coupled bandpass with
5 pot cores, 5 * 3 variable Cs and 5 * 2 reed relays for
band switching.
If you set it to the 3.5 - 3.58 MHz range, 3.75 MHz is
already way down in the noise of the network analyzer, even
at small bandwidths. :-)

It sure is quite a lot of material and could not be justified
for a commercial general coverage receiver, but if i stick
with the few ham bands it's a completely different picture.

Once you have invested in a good preselector,
upconversion to 40 or 70 MHz looses most of it's charm too;
at an IF of1 MHz or below you need less crystals for a given
absolute bandwidth and the larger low frequency crystals should
promise a better filter IP3. (But this may depend on the cut?)

> 3. 16-pole variable bandwidth distributed IF amp/filter. Novel circuit
> uses groups of 4 pole Cohn varactor controlled crystal filters distributed
> along with MC1590 gain blocks. Provides very low noise figure along with
> 500-5000 khz variable uP controllable bandwidth. Hang agc.

Your AGC may be difficult to stabilize because of the large
group delay. A friend of mine cascaded some mechanical filters
on 200 KHz and had quite a lot of work until the AGC
worked properly. The problem were signals exactly on the
filter skirt.

> Note, this is all real hardware- all but synthesizer have schematics. I
> currently have the preselector, Makhinson front end, IF, etc being driven
> by a crystal mix LO using 5mhz VFO mixed up to needed freq using crystals-
> just like in old DRAKE R4C- hence name R4-DMOS. Right now PLL/DDS is
> sitting next to receiver, waiting for uP controller to be built.

I also built an AD7008-based DDS and a 1:1 cleanup PLL that can
be controlled by 4 bits of a PC line printer port. DDS+PLL fit
on a 2 * 2 inch board and work nicely at 5-5.5 MHz.

The spurs of the AD7008 are some 8 or 10dB worse than those of
an Harris HSP45106 DDS + HI5721BIB ECL-DAC,but the Harris is not
so much better that we could get rid of the clean up PLL.

I did this for a customer so I cannot give the design away,
but the AD7008 control program for the PC is available.

I think an interesting ham receiver might be the following:

1. sharp preselector with reed relais or maybe varicaps

2. mixer with 4*SD210210 or other DMOS-fets

3. first oscillator has steps of 200 KHz;
could be crystals if you are interested in some bands only.

4. post amplifier with AGC like the differential amplifier
design published by Rohde. AGC voltage should be taken by
amplified 1 MHz IF.

5. IF filter near 1 MHz, 300 KHz wide. (HighPass/LowPass)
No crystals.
The bandwidth is necessary so that we can implement
a decent noise blanker. (neglected by most designs)

6. delay line + noise blanker gate
(in the style of DJ7VY 's design from 15 years ago)

7. amplify and mix down to say 50 KHz.
Current feedback opamps have IP3 of 45..50 dBm at 1 MHz.

8. 2nd oscillator is DDS from 850 to 1050 KHz. Sideband
noise of the cleanup vco is hard to mess up at this frequency.
At more than 150 KHz off the carrier it's even less important.

9. amplify the signal at 50 khz. Use op37 or similar opamp.
You may bandlimit the signal somewhat but stay away from
active filters unless you know exactly what you are doing.
(Some types build up huge voltages at internal nodes so
they saturate when you don't expect it.)

10. digitize with Burr Brown PCM1760 / DF1760 20 bit A/D converter
or similar. 16 Bits should be enough.

11. feed into Motorola 56002 evaluation kit. It's dirt cheap
and contains all hard- and software required.

The connection requires a shift register that is memory mapped
to the free socket.

The evaluation kit has an a/d converter of it's own that
you may use instead of the Burr-Brown, but it is less than
excellent. It may be a good start, however since you
don't need to do any digital hardware design. I cannot say
from memory if it can do a 50 KHz sample rate.

12. Run digital filters with independent upper & lower edges
and notches as you like. Examples are in the eval kit docs.

13. AGC can be implemented by multiplying the samples with a
variable that keeps track of average signal strenght.
There is no need to loop the AGC around a filter, so
there is no stability problem.

14. Demodulate by multiplying with a 50 KHz sinusoid.

15. Write the samples to the onboard d/a converter.

16. Plug your headphones into the demo board.

73, Gerhard DK4XP

3416. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4olase$6ch@peabody.colorado.edu>
Source record: 105053

From jackl@pinetree.microserve.com Thu May 30 17:11:49 MDT 1996

drp@netcom.com (Randy Petersen) wrote:

:>I have a project that I am working on which requires a 10 to 30 hz
:>broad range white noise generator. I have found many subaudible tone
:>generator circuits, but have not found a circuit that would put out
:>10 to 30 hz as white noise. This will be used for some masking and
:>attenuation experiments. If you can help please let me know.

>Most white noise generators in this range also output over the
>entire audio spectrum. If that's acceptable, you can probably
>find something in a local library under acoustic testing.

>If the generator you need must only output 10 to 30 Hz, I suspect
>it will be a pretty sophisticated instrument. Perhaps a sound card
>and computer program could generate a pseudo-random (white) noise
>only in the desired range.

Another possibility is to use a broad-spectrum noise generator, and then put it through some active bandpass filters. The "Active Filter Cookbook," published (I think) by SAMS, inc., has ripoff circuits (that is, with all the parts assigned values) and complete instructions (and worked examples) how to make such things given only op-amps, resistors, and capacitors. However, it contains no "brick wall" filters that pass no energy outside the given band. But a sixth order highpass at 10 Hz followed by a similar lowpass at 30 Hz might be good enough for you, and the book makes it clear how to design one. (Whether Butterworth, Bessel, or 1-, 2-, or 3-dB dips Chebyshev, by the way. And it shows you what the difference between them is.)

It would require a couple of quad op-amps and a small handful of Rs and Cs.

Bruce
N6URH

3417. Re: Just enough to hang my. . .antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: anthonys@ix.netcom.com
Message-ID: <4ol72c$662@dfw-ixnews9.ix.netcom.com>
Source record: 105054
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In <4okud8$9st@mtinsc01-mgt.ops.worldnet.att.net> Chuck Bland
<BlandRanch@worldnet.att.net> writes:
>
>Greetings,
>
>I'm in the process of hanging a dipole antenna, and I will be using
ropes
>at the ends to suspend it.
>
>What type of rope should I use? I live in Sacramento, CA. Hot, dry
>summers, rainy, windy winters. No snow.
>

Polypropylene would be best as an insulator but make sure it
is BLACK for UV resistance (common stuff is yellow). But, why not
use a couple of cheap glass insulators?

Braided Nylon is NG because it deterioriates pretty fast.
Dacron is much better and stretches less.

-=Tony=- W6ANV San Francisco

3418. look for a schematic for a transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: reble@oneworld.owt.com
Message-ID: <4olb6l$e78@paperboy.owt.com>
Source record: 105055

i have a galaxy 3 transcever that works 80,40 and 20 meters. i am looking for a set of schematic plans for a transverter that will inable the galaxy rig i have to get the 15 to 10 meter bands. does anyone have any idea for a transverter or a way to modafiy the rig to get the other bands?

my e-mail address is:
reble@oneworld.owt.com

if anyone has any ideas.

steve kc7byp

3419. Re: MC1466/1566 wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4oltbj$ml8@shellx.best.com>
Source record: 105056

In article <4okvm4$528@newsbf02.news.aol.com>,
JohnsonHE <johnsonhe@aol.com> wrote:
>Anybody have a few of the above regulators in their junk box that they'd
>care to convert to cash? I have supply (homebrew) that uses them, and
>they're obsolete part now.
>
>
I was looking for these, with no success, myself some time back.
I ended up converting the circuit to a 723 regulator. They are
very similar. I may have an original spec sheet for the 1466 if
thats any help.

Steve Muther WF6R

3420. Re: Help! 70MHz Amplifier???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: Francis Lyn <lynf@candu.aecl.ca>
Message-ID: <4ok2q9$5b6@shpk1.candu.aecl.ca>
Source record: 105057

Build your own PA stage. Motorola makes RF MOSFETS that will do the job, and provide lots of application notes for high power broad band VHF amplifiers using MOSFETS. With 30 W drive, a push-pull output stage is probably all you need.

The hard part in designing RF power amplifiers is to get the input and output impedance matching networks right. Since you want to drive a 5 k load, you should design the output matching network for a Zl = 5k instead of the usual 50 ohm. No reason to use a step up transformer, that is what the matching network is supposed to do (along with harmonic suppression, which may not matter in your application).

Call on some of your friend in Electrical Engineering; they should be glad to assist. Good Luck!

Francis - VE3TDL

3421. Re: batteryless radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDs8no4.Gu6@netcom.com>
Source record: 105058

In article <4oku7t$4v0@nadine.teleport.com> w7el@teleport.com (Roy Lewallen) writes:
>In article <31AC1AA6.3054@pegasus.cc.ucf.edu>,
> ron willis <rdw79936@pegasus.cc.ucf.edu> wrote:
>>Am looking for batteryless portable radio. Heard of this item (crank
>>up flywheel, which spins generator, which powers radio) on NPR and didn't
>>get acquisition details. Living in Florida, at the start of the
>>hurricane season, and am looking for emergency source of news, weather
>>info, etc.
>
>Although the generator-powered radio sounds good from an ecological
>standpoint, I don't see its advantage in usefulness over a battery-operated
>one unless you're in a location where batteries aren't available. An unused
>alkaline battery will easily last for several years, longer if it's kept in
>the refrigerator or freezer. And one will run a radio for several hours. As
>I recall from an advertisement I saw, the generator-powered radio gives
>about ten minutes of play time for one of cranking. You may have other
>things you want to do during a hurricane besides spending 10% of your time
>cranking.
>
>Roy Lewallen, W7EL

Grab one of those small radio shack portables that receives AM, FM and VHF-TV audio. They are about $60 or 70, run off two AA cells. Then grab a few pair of AA lithium cells (rat shack or other sources) and a small AA powered flashight. Stuff the whole mess into a few zip bags and you have a very useful receiver setup for such situations that should have a 10 year shelf-life. Stick a Standard C108A/C508A in the same bag and you're really set.

73 Dave WB0GAZ dgf@netcom.com

3422. Re: Needed: FM stereo multiplex ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDs9zn4.870@netcom.com>
Source record: 105059
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

: From: Chris FormyDuval, cdformyd@eos.ncsu.edu
: >Try the homepages of National Semiconductor, Harris, TI etc. You should
: >come up with several choices as well as datasheets and app. notes.

in <4oi09i$1b0o@newsgate.sps.mot.com>, Rick Cramer wrote:
: I too have been trying to find a stereo mx chip.
: Does anyone know of any more information... the web sites mentioned
: below were not much help.

The stereo multiplex generator chips I've heard of are both from more obscure japanese companies. Rohm has the BA1404 (and a BA1405) and NJR has the NJM2035.

The BA1404 is what is used in the Ramsey FM-10 and other "license free broadcaster" kits. (It includes a transmitter section). There have been articles on the FM-10 in Popular Electronics a couple of years ago and a construction article on a BA1404 based transmitter in the July 1992 Radio-Electronics magazine. Also covered in Don Lancaster's "Hardware Hacker" column in Radio-Electronics around that date.

The NJM2035 is what I've heard is used in the FX-Wave CD to radio convertor that you can buy off the pegboard at your local discount store. Last I knew, Digikey sells NJR but I didn't find the part in the catalog I looked in.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

3423. Re: ARRL synch. detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: hugo@infobahnos.com
Message-ID: <4ol8hm$ntc@news.accent.net>
Source record: 105060

Jake Brodsky <frussle@erols.com> wrote:

Thanks, Jake, for your reply and comments and tanks also to the many others that brought their help, some directly through e-mail. The support of one of them I have in mind, has been realy FANTASTIC.

I have started the construction though I'm still waiting for some of the parts.

>I built one with some freinds. We put it in an FRG-100 and it worked
>pretty well after we tweaked some of the parts a bit.

Could you expand a bit on what you mean by 'tweaked'.

> I don't think the original article had the part values all that close. But it doesn't
>matter. Just get an assortment of parts that are reasonably close.

I've ordered the 1% resistors as well as the C0G caps (NPO!!; Should have taken a closer look to the components chapter of the h'book before posting this question. (: < . Thanks for the previous poster reply in any case)

>If your varactor capacitance ranges are wide enough, you can make up
>for pretty much any other drift you might encounter.

Are you aware if NTE613 tuning diodes (~22pf at 4 V) could serve as direct replacement to BB809 or BB409 (~ 33pf at 2 V) suggested by the author. I have the MV2109 and MV2105 (thanks to my FANTASTIC contact) to be paralleled in replacement of any of the BBs, but would prefer 2 parts instead of 4 due to space constrains I have to deal with.

I'm pretty shure these parts are availlable in Montreal.

Again thanks to all,

H. Caron

>Jake Brodsky, AB3A

>"Beware of the massive impossible!"

3424. HF oscillator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: WWW-Computer <Postmaster@infocom.dk>
Message-ID: <31AD6149.12AC@infocom.dk>
Source record: 105061
Cross-posted to: rec.radio.scanner,rec.radio.amateur,rec.radio.amateur.homebrew,rec.radio.amateur.misc

I am building a scanner (on low budget) and for
that I need a oscillator. By software I must be
able to choose between a number of different
frequences starting at 100MHz, 200MHz, 300MHz....
Ten different oscillators is a possibility but too
expensive. I have thought of something with a
cap.diode.
Maybe some of you has a good construction or some
good ideas.

Thanx.

khh@infocom.dk

3425. Re: Ultra h. perf. receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4oivtl$jik@hpscit.sc.hp.com>
Source record: 105120

In article <bigr-2905960425130001@ip-pdx02-14.teleport.com>,
bigr <bigr@teleport.com> wrote:
>I am looking to exchange ideas/schematics/etc. with others who are
>building ultra high performance receivers.
>
>My current project is called: R4-DMOS.
>
>Receiver is composed of:
>
>1. Varactor tuned preselector. Three tunable relay switched sections.
>
> Note: it is possible to build varactor tuned preselectors that do not
>compromise high dynamic range front ends. Key is paralleling diodes,
>using low impedance, and not paying attention to poorly thought out
>articles by ARRL staff. :)

This in an outstanding idea.

Be sure to use the usual trick of putting two diodes in series with
the polarity reversed to cancel out distortion. This is really important.

For the inductors, I would use Fair-Rite #67 toroids, 1/2 inch O.D.

Link couple the toroids to provide for going varactor tracking (capacitive
coupling screws up tracking).

>
>2. Makhinson front end (from Feb 93 QST), using SD5002 IC along with
>74AC86 driver. Uses LO frequency at 1x, not 2x as in 96 handbook, etc.
>
> Note: I have rails and rails of SD5002 dbm chips- will barter for...
>
>3. 16-pole variable bandwidth distributed IF amp/filter. Novel circuit
>uses groups of 4 pole Cohn varactor controlled crystal filters distributed
>along with MC1590 gain blocks. Provides very low noise figure along with
>500-5000 khz variable uP controllable bandwidth. Hang agc.

Not entirely sure what you're talking about here, can you give more
details. Watch out for intermod distortion in the xtal filters.

On the hang AGC, be sure to read the recent QEX article on AGC.

>
>I am also building AD600 based IF amp from recent QST- am waiting months
>for Ocean State electronics for coil forms and balun cores. (I don't
>recommend buying anything from this co. as delivery takes for ever, caveat
>emptor- Would be faster constructing components from the "elements")

>
>4. Hybrid DDS/PLL synthesizer. Rohde sketchy design outputs frequency
>for use in up-conversion receiver. Mine delivers 10-39mhz output with
>single PLL. Same VCO and loop filter as Rohde.

See my 1996 IEEE Frequency Control Symposium paper for some ideas on
synthesizers.

A 10-39 MHz. VCO sounds like you're talking about a 9 MHz. IF with
a receiver tuning range of 1 to 30 MHz. That is very questionable
from the viewpoint of low order mixer intermods. With your preselectors,
you ought to use a 455 kHz. first IF.

>
>5. Sample-and-hold synchronous demodulator using more SD5002 chips.

Why sample and hold? That opens up a whole can of worms.

>6. uP controller to be developed. I hope to use a Microchip PIC to
>controll DDS, PLL, IF bandwidth, LCD, Keypad, but associated costs with
>"C" language and developent system may force the use of Motorola 68HC11
>series. cheaper.
>--------------
>
>Note, this is all real hardware- all but synthesizer have schematics. I
>currently have the preselector, Makhinson front end, IF, etc being driven
>by a crystal mix LO using 5mhz VFO mixed up to needed freq using crystals-
>just like in old DRAKE R4C- hence name R4-DMOS. Right now PLL/DDS is
>sitting next to receiver, waiting for uP controller to be built.

Again, before you do this, look at my synthesizer paper.

>Basically, this approach totally eliminates any advantages that
>up-conversion receivers may have held- especially considering 2nd order
>DR problems that have recently been discussed in QST/QEX, etc. My
>varactor preselector approach is still cheaper than multioctave filters
>with expensive relay or PIN diode switching.
>
>Any comments?? Rob N3FT.

Overall, this receiver concept makes more sense than 99% of what I
have seen out there. I will be interested to see what you come up
with. I'd love to have the time to do this myself.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3426. Re: Here is how to solder Nicads without tabs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4oj1c7$kou@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105121

I agree with Steven but have an added "twist". I use the aggressive paste too, but apply it to the battery, then lightly sand with fine emery cloth. This will help break up the oxide passivation layer and help prevent reformation before you can get the iron on it. Use a hot iron and work fast to avoid heating the cell.
Woody

3427. 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: drp@netcom.com
Message-ID: <drpDs6z6M.9CK@netcom.com>
Source record: 105122

I have a project that I am working on which requires a 10 to 30 hz
broad range white noise generator. I have found many subaudible tone
generator circuits, but have not found a circuit that would put out
10 to 30 hz as white noise. This will be used for some masking and
attenuation experiments. If you can help please let me know.

Thanks
Randy Petersen
San Jose Ca.
drp@netcom.com

3428. Re: Kenwood TS820s

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: mishmash@anv.net
Message-ID: <4oja4s$4an@raven.eva.net>
Source record: 105123

In article <31A86F16.7E27@inav.net>, dgmaley@inav.net says...
>
>Ej Mars wrote:
>>
>> My Kenwood TS820S is Transmitting and receiving off frequency on
>> upper side band. The If Shift has to be 2-3 notches to the minus side to
>> recieve Ok. The Lower side band is working find. Does anyone out there
>> Have any Idea what could be causing this problem and what can I do about
>> it. Please reply.
>>
>> Thanks
>> KCPEPI
>> EJ@lagn.com
>>
>
>Sounds like one of the carrier osc. have gone off frequency.
>They are in a module near the VCO. Best aligned with the use of
>a service manual. Good luck. Dave.

I don't have the schematic anymore, but a few years ago I had a similar problem and traced it to a shorted bypass cap (.001 pf I believe) on the carrier shift board. I think it was near one of the varacter diodes.

Good Luck,

Charlie AA7NQ

3429. Re: watkins-Johnson

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: bender@doemain
Message-ID: <4ojhnp$kd1@engnews1.Eng.Sun.COM>
Source record: 105124
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.space,sci.electronics.equipment,sci.electronics.repair

angel vilaseca (100604.1242@CompuServe.COM) wrote:
: Looking for data about the following travelling wave tube:
: Watkins-Johnson WJ-3104
: This must be a 18 GHz model

Have you tried Watkins-Johnson? They have an office in Scotts Valley, CA,
area code 408.

mike

--

Factual quotes from Michael Savage:
(EOF)

3430. Re: Mobile Noise Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: hh357@aol.com
Message-ID: <4ojmk9$jbn@newsbf02.news.aol.com>
Source record: 105125

I started reading your post and thought I had the answer, then bam I
finished reading and realized I was as lost as you.
I've never connected a HF rig but I have connected several VHF scanners.
It really sounds like an alternator whine by your description, but pushing
in the clutch to make it go away rules that out. Unless somehow the
transmission is not properly grounded, and there is something really
strange going on.
I've found that Black Magic, smoke and mirrors,etc. seems to be involved
with solving RF-mobile problems.
Did you ground your exhaust manifold? Your transmission? Oh, I'm sorry
you were trying to avoid trying everything !!
Let me know what you find. I'd be very interested.
Good luck,
H Higgins

3431. Re: homebrew GPS receiver ? on a balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: hh357@aol.com
Message-ID: <4ojnh4$jhb@newsbf02.news.aol.com>
Source record: 105126

GPS units also have a maximum altitude (so it cant be used in a missle).
I used to send up 5-6 ft. weather ballons for the forest service, and as I
recall, we got up to 20,000 ft in a half hour or so. So your commercial
GPS unit would be of no use after 30 min at most.
GPS's also have a maximum acceleration limit, if I'm not mistaken, but I
doubt if any balloon will ever reach that limit.
Good luck
H Higgins

3432. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: rwilkins@ccnet.com
Message-ID: <4oje7k$9fk@ccnet2.ccnet.com>
Source record: 105127
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

Richard Steven Walz (rstevew@armory.com) wrote:

: P.S. L.O.S.A. is a mail list for stamp application technical notes,
: and it is considered quite kosher to post in this neighborhood of the
: UseNet.

While most folks use a damp sponge to apply stamps, it might be more
kosher to just have a pointer to your ftp sites or learn the html code
and put up a web page. Try to send your foul language to the hams to
e-mail, or better yet put it in an audio file on your web server.

In this neighborhood there are those who want to lick stamps...

: -Steve
: --
: -Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
: mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
: and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
: and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com

--
Bob Wilkins home n6fri@uhf.org
Berkeley Hills, California work bob@cave.org
CM87uv play n6fri@n0ary.#nocal.ca.usa.noam

3433. Re: Ultra h. perf. receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-30 00:00:00 UTC
From: glittle@awod.com
Message-ID: <4ojvsa$2rq@harbour.awod.com>
Source record: 105128

In article <bigr-2905960425130001@ip-pdx02-14.teleport.com>, bigr@teleport.com (bigr) says:
>
>I am looking to exchange ideas/schematics/etc. with others who are
>building ultra high performance receivers.
>
>My current project is called: R4-DMOS.
>
>Receiver is composed of:
>
>1. Varactor tuned preselector. Three tunable relay switched sections.
>
> Note: it is possible to build varactor tuned preselectors that do not
>compromise high dynamic range front ends. Key is paralleling diodes,
>using low impedance, and not paying attention to poorly thought out
>articles by ARRL staff. :)
>
>
>2. Makhinson front end (from Feb 93 QST), using SD5002 IC along with
>74AC86 driver. Uses LO frequency at 1x, not 2x as in 96 handbook, etc.
>
> Note: I have rails and rails of SD5002 dbm chips- will barter for...
>
>3. 16-pole variable bandwidth distributed IF amp/filter. Novel circuit
>uses groups of 4 pole Cohn varactor controlled crystal filters distributed
>along with MC1590 gain blocks. Provides very low noise figure along with
>500-5000 khz variable uP controllable bandwidth. Hang agc.
>
>I am also building AD600 based IF amp from recent QST- am waiting months
>for Ocean State electronics for coil forms and balun cores. (I don't
>recommend buying anything from this co. as delivery takes for ever, caveat
>emptor- Would be faster constructing components from the "elements")
>
>4. Hybrid DDS/PLL synthesizer. Rohde sketchy design outputs frequency
>for use in up-conversion receiver. Mine delivers 10-39mhz output with
>single PLL. Same VCO and loop filter as Rohde.
>
>5. Sample-and-hold synchronous demodulator using more SD5002 chips.
>
>6. uP controller to be developed. I hope to use a Microchip PIC to
>controll DDS, PLL, IF bandwidth, LCD, Keypad, but associated costs with
>"C" language and developent system may force the use of Motorola 68HC11
>series. cheaper.
>--------------

>
>Note, this is all real hardware- all but synthesizer have schematics. I
>currently have the preselector, Makhinson front end, IF, etc being driven
>by a crystal mix LO using 5mhz VFO mixed up to needed freq using crystals-
>just like in old DRAKE R4C- hence name R4-DMOS. Right now PLL/DDS is
>sitting next to receiver, waiting for uP controller to be built.
>
>Basically, this approach totally eliminates any advantages that
>up-conversion receivers may have held- especially considering 2nd order
>DR problems that have recently been discussed in QST/QEX, etc. My
>varactor preselector approach is still cheaper than multioctave filters
>with expensive relay or PIN diode switching.
>
>Any comments?? Rob N3FT.

The Racal 6790GM used a high level mixer (about 2W of LO). This was
fed via a filter directly from the antenna. The mixer consisted of
4 mosfets in a bridge. I have had to fix two of these mixers.

The receiver did NOT desense.

73

3434. Repeater Projects

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: tswisher@freenet.columbus.oh.us
Message-ID: <4on7t8$hp9@acme.freenet.columbus.oh.us>
Source record: 104979

As I am currently embarking upon rebuild number 3 of my 2m/70cm repeaters, I'm looking for interesting and useful (and relatively easy) projects to make the system better.

I'm especially looking for audio tailoring circuits and audio delay lines, but anything useful will be added to the "Things To Do" notebook for future consideration. Does anyone have any suggestions? To save bandwidth on the newsgroup, please reply via e-mail to the below address. Thanks for any assistance anyone can provide.

Tom Swisher, N8GQK
tomswisher@aol.com

3435. Relays-fast?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4on820$820@newsbf02.news.aol.com>
Source record: 104980

Does anyone know a source of fast relays suitable for HF amplifiers?
73 Tom

3436. Re: wanted: Dec '89 "Ham Radio Magazine" article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: djackson@xroads.com
Message-ID: <31af2435.4029188@news.xroads.com>
Source record: 104981

joe haas <joeh@rollanet.org> wrote:

>I am looking for an article that appeared in the Dec '89 Ham Radio issue.
> Its title was something like "Multi Megabit digital link...". The
>article describes how to us a set of gunnplexers for a high speed digital
>link. If anyone can provide a copy of this article, I would be most
>grateful.
>
>Thanks,
>
>Joe Haas
>KE0FF
>joeh@rollanet.org

Joe,

Try...

http://www.tapr.org/~n6gn/uwavelink/uwv.html

73 de W7KGU
Don L. Jackson / Gilbert, AZ
djackson@xroads.com

3437. Re: Just enough to hang my. . .antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ong1b$g0v@hpcvsnz.cv.hp.com>
Source record: 104982
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

WB3U (jackl@pinetree.microserve.com) wrote:

: Dacron is the best of all these ropes. It is often available
: at a reasonable price at larger hardware/building supply centers,
: but it wil probably be labeled "polyester", not Dacron.

I've been very happy with the Dacron line I've gotten from
Synthetic Textiles (somewhere around Ventura, CA), who advertise
in CQ magazine. About the only down side is that you have to
order long lengths from them, so you might want to split the
order with friends. But I've left their line out in the weather
for years and come back to untie knots that came out easily --
extremely little hardening and no apparent deterioration. Your
climate may vary, to paraphrase a common disclaimer. Their line
has a black braided jacket that lets it slip pretty easily
through holes and makes it generally easy to handle. It's such
nice line I've used it for lots of things besides just holding
up antennas!

Writing only as a satisfied customer,

--
Cheers,
Tom
tomb@lsid.hp.com

3438. Re: Relays-fast?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <31AF4576.E92@vcd.hp.com>
Source record: 104983

W8JI Tom wrote:
>
> Does anyone know a source of fast relays suitable for HF amplifiers?
> 73 Tom
Tom,

How fast is fast? For example, most open frame relays are adequate.
My
SB-220 amp has a 3P2T open frame relay, which works fine for AMTOR,
PACTOR, etc
as-is. Have used it for years on these modes. I have also measured the
t/r
times of my TS820, which has two relays, one of them being a 4P2T job.
The
whole system switches in under 15 mS, again, plenty fast enough for
those modes.
So my suggestion is, use any reasonable relay, not oversized, for the
job.
There seems to be a lot of myth out there about "fast switching",and
that relays
cannot do it. Wrong in many cases. I once worked a ham on AMTOR who
had just spent hundreds of dollars on a PIN diode T/R switching box for
use with his
SB-220. When I told him I was also using a SB-220 which was
essentially in
stock condition, he told me that what I was doing was impossible! Ah
well,
no one likes to admit he's been zapped by the marketeers again...

73, GL,
Don, W6JL

3439. Re: how get into ICOM battery packs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: Stan Witherspoon <stan@rosemail.rose.hp.com>
Message-ID: <31AF4C62.237@rosemail.rose.hp.com>
Source record: 104984

Myron A. Calhoun wrote:
>
> I have ICOM BP-82 and BP-84 battery packs which I really need to get into
> so I can replace a cell or two. If someone has already "chewed" his/her
> way into such a pack, I'd sure appreciate suggestions!
>
> --Myron.
> --
> # Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
> # PhD EE; Associate Professor (913) 532-6350 work 532-7353 fax 539-4448 home
> # NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

I'm not familiar with the above ICOM packs, but I have had good luck
putting my Yeasu packs in the freezer for a while and then smacking the
seam against a sharp
edge like the edge of a table to break the glue joint and then prying
the pack open

stan
--
--- Stan Witherspoon N6SCE ----- Disclaimer ---
- Systems Technology Div. - These are my personal opinions -
- Hewlett Packard Company - and do not represent the views -
- 8000 Foothills Blvd. MS 5596 - of anyone or anything else. -
--- Roseville,Ca.95747-5596 ----- stan@rosemail.rose.hp.com ---

3440. Re: batteryless radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: Piers Rochford <piers@sling.demon.co.uk>
Message-ID: <235977155wnr@sling.demon.co.uk>
Source record: 104985

-- There is a crank up radio available from Martin LYNCH in the UK that
is as much as I know

e-mail : sales@martin-lynch.co.uk
web : http://www.martin-lynch.co.uk

Hope these two address help

Piers.

---

piers@sling.demon.co.uk

3441. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: Cecil Moore <kg7bk@primenet.com>
Message-ID: <4onnkg$grl@nnrp1.news.primenet.com>
Source record: 104986
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

WB3U <jackl@pinetree.microserve.com> wrote:

: The unqualified use of baluns is what has set the Amateur community
: back thirty years. Overlooking the advantages and versatility of
: link coupling on the basis of its age is akin to replacing the
: family sedan with a hovercraft. ;)

Hi Jack, Add stub matching to that pot. The theory of stub matching has been forgotten. Stubs need not be pieces of transmission line. Functionally, they can be a capacitor or an inductor. I use stub matching theory and one single variable capacitor across the ladder-line at the operating position to achieve a 50 ohm SWR of 1:1 on *all* HF frequencies with a 102 ft. dipole. It is the easiest, most efficient antenna matching technique that I know of. Why in the world has it been discarded? It works as well and usually better than an antenna tuner and costs a lot less.

73, Cecil, KG7BK (W6RCA soon), OOTC

3442. desperately seeking for 3SK124

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: Andrea Ghilardi <andrea@cln.it>
Message-ID: <4onm7l$jv4@server-b.cs.interbusiness.it>
Source record: 104987

Hello here is Andrea IK5QLO,
I am in need of the "old" GaAsFet 3SK124 as replacement
for some Aged but still good MMT 2m preamplifiers and
converters. I will be happy to buy it !
Here in Italy they seems to be disapperead !

73 de Andrea IK5QLO

Email: andrea@cln.it

Packet Radio : IK5QLO@IW5BFZ.ITOS.ITA.EU

3443. CLEAR ALL YOUR DEBTS QUICKLY

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: davldb@aol.com
Message-ID: <4oo03v$hcu@newsbf02.news.aol.com>
Source record: 104988

Hello!

I've got some awesome news that I think you need to take
two minutes to read if you have ever thought "How could I make
some serious cash in a hurry???" , or been in serious debt, ready
to do almost anything to get the money needed to pay off those
bill collectors. So grab a snack, a warm cup of coffee, or a glass
of your favorite beverage, get comfortable and listen to this
interesting, exciting find!
Let me start by saying that I FINALLY FOUND IT! That's right!
I found it! And I HATE GET RICH QUICK SCHEMES!! I hate those
schemes like multi-level marketing, mail-order schemes, envelope
stuffing scams, telephone number scams... the list goes on forever. I
have tried every darn get rich quick scheme out there over the
past 12 years. I somehow got on mailing lists for people looking
to make money. Well, when I was a teenager, these
claims to 'get me rich quick' sounded irresistible! I would shell
out $14.95 here, $29.95 there, $24.95 here, and another $49.95
there. I had maxed out my new Circuit City Card AND my Visa...I
was desperate for money!! So, I gave them all a chance but
failed at every one of them! Maybe they worked for some people,
but not for me. K MAIL in the
trash when I got the mail. I recognized it right away. I can
smell a money scam from a mile away these days, SO I THOUGHT....
I thought I could sniff out a scam easily. WAS I WRONG!!
...I LOVE THE INTERNET!!!

I was scanning thru a NEWSGROUP and saw an article stating to
GET CASH FAST!! I thought..."Here on the Internet?? Well, I'll
just have to see what schemes could possibly be on the internet."
The article described a way to MAIL 5 DOLLARS/POUNDS TO ONLY
FIVE PEOPLE AND MAKE $50,000 IN CASH WITHIN 4 WEEKS! Well,
the more I thought about it, the more I became very curious. Why?
Because of the way it worked AND BECAUSE IT WOULD ONLY COST ME
25 DOLLARS/ POUNDS (AND FIVE STAMPS), THAT'S ALL I EVER PAY....EVER!!

Ok, so the $50,000 in cash was maybe an tough amount to reach,
but it was possible. I knew that I could at least get a return
of $1,000 or so. So I did it!! As per the instructions in the
article, I mailed out ('snail mail' for you e-mail fanatics) a
single dollar bill to each of the five people on the list that
was contained in the article. I included a small note, with the
dollar, that stated "Please Add Me To Your List." I then removed
the first position name of the five names listed and moved
everyone up one position, and I put my name in position five of

the list. This is how the money starts rolling in! I then took this revised article now with my name on the list and REPOSTED IT ON AS MANY NEWSGROUPS AND LOCAL BULLETIN BOARD MESSAGE AREAS THAT I KNEW. I then waited to watch the money come in...prepared to maybe receive about $1000 to $1500 in cash or so....
But what a welcome surprise when those envelopes kept coming in!!! I knew what they were as soon as I saw the return addresses from people all over the world-Most from the U.S., but some from Canada, even some from Australia! I tell you, THAT WAS EXCITING!! So how much did I get in total return? $1000? $5000? Not even!!! I received a total of $23,343!!! I couldn't believe it!!

I now have a brand new black sports-car to speak for, due to all of this!! Now,after almost 8 months, I am ready to do it again!!! So maybe it was possible to get $50,000 in cash, I don't know, but IT COMPLETELY DEPENDS ON YOU, THE INDIVIDUAL! You must follow through and repost this article everywhere you can think of! The more postings you achieve will determine how much cash will arrive in your very own mailbox!! It's just too easy to pass up!!!

Let's review the reasons why you should do this: The only cost factors are for the five stamps, the 5 envelopes and the 5 five dollar/pounds that you send out to the listed names by snail mail (Postal Service Mail). Then just simply repost the article (WITH YOUR NAME ADDED) to all the newsgroups and local BBS's you can. Then sit back and, (ironically), enjoy walking (you can run if you like! :o) down your driveway to your mailbox and scoop up your rewards!! We all have five dollars to put into such an easy effortless investment with SPECTACULAR REALISTIC RETURNS OF $15,000 to $25,000 in about 3-5 weeks! So HOLD OFF ON THOSE LOTTERY NUMBERS FOR TODAY,EAT AT HOME TONIGHT INSTEAD OF TAKEOUT FROM McDONALDS AND INVEST FIVE DOLLARS IN THIS AMAZING MONEY MAKING SYSTEM NOW!!! YOU CAN'T LOSE!!

Remember: it's only FIVE dollars! Didn't you ever made the mistake to help someone with 5 dollars, never got it back and thought "What's 5 bucks anyway?" In this case it's a ticket to a LOT of money!

So how do you do it exactly, you ask? I have carefully provided the most detailed, yet straightforward instructions on how to easily get this underway and get your cash on its way. SO, ARE YOU READY TO MAKE SOME CASH!!!?? HERE WE GO!!!

*** THE LIST OF NAMES IS AT THE END OF THIS ARTICLE. ***

OK, Read this carefully. Get a printout of this information, if you like, so you can easily refer to it as often as needed.

INSTRUCTIONS:

1. Take a sheet of paper and write on it the following:
"Please add my name to your list". This creates a service out of this money making system and thus making it completely legal, anywhere in the world. ANYWHERE? Yes, all the postal services are a member of the UPU, a worldwide postal organisation. They all have the same rules about sending money. You are not just randomly sending a dollar to someone, you are paying one dollar for a legitimate service.

2. Make sure you include your name and address. I assure you that, again, this is completely legal! You can inclose a little note to just say 'hi' as the new member of this 'money-family'! For a neat little twist, also write what slot their name was in: "You were in slot 3", Just to add a little fun! This is all about having fun and making money at the same time!

3. Now fold this sheet of paper around a dollar bill (no checks or money-orders, or all the money will go to cashing them), and put them into an envelope and send it on its way to the five people listed. The folding of the paper around the bill will insure its arrival to its recipient. THIS STEP IS VERY IMPORTANT!! You don't want your money to go to greedy postal-workers, do you?

4. Now listen carefully, here's where you get YOUR MONEY COMING TO YOUR MAILBOX. Look at the list of five people; remove the first name from position one and move everyone on the list up slot one on the list. Position 2 name will now move to the position 1 slot , position 3 will now become position 2, 4 will be be 3, 5 wil be 4. Now put your name, address, zipcode AND COUNTRY in position 5, the bottom position on the list.

5. Now upload this updated file to as many newsgroups and local bulletin boards' message areas & file section as possible. Give a catchy description of the file so it gets noticed!! Such as: "NEED FAST CASH?, HERE IT IS!" or "NEED CASH TO PAY OFF YOUR DEBTS??", etc. And the more uploads, the more money you will make, and of course, the more money the others on the list will make too.
LET'S ALL TAKE CARE OF EACH OTHER BY BEING HONEST AND BY PUTTING FORTH 120 PERCENT INTO THIS PROFITABLE & AMAZING SYSTEM!!!
You'll reap the benefits, believe me!!! Set a goal for the number of total uploads you'll post, such as 15-20 postings or even more! There are realy no limits, since there are far more newsgroups worldwide then you ever can post to! Always have a goal in mind!!! If you can UUE-encode the file when uploading, that will make it easier for the people to receive it and have it downloaded to their hard drive. That way they get a copy of the article right on their computer without hassles of viewing and then saving the article from the File menu. Don't alter the file type, leave it as an MS-DOS Text file. The best test is to be able to view this file using Notepad for Windows 3.x or WordPad for Windows '95. If the margins look right without making the screen slide left or right when at

the ends of the sentences, you're in business!

6. If you need help uploading, simply ask the sysop of the BBS, or "POST" a message on a newsgroup asking how to post a file, tell them who your Internet provider is and PEOPLE WILL ALWAYS BE GLAD TO HELP. I would try to describe how to do it but there are simply too many internet software packages with slightly different yet relatively simple ways to post or upload a file. Just ask for help or look in the help section for 'posting'. I do know that for GNN, you simply select 'POST' then enter a catchy description under the subject box, choose 'ATTACH', selecting 'UUE' and NOT 'TXT', then choose 'Browse' to go look for the file. Find your text file CASH.TXT and click on it and choose 'OK'. Place a one line statement in the main body section of the message post screen. Something like "Download this to read how to get cash arriving in your mailbox with no paybacks!" or whatever. Just make sure it represents its true feasibility, NOT something like... "Get one million dollars flooding in your mailbox in two days!" You'll never get ANY responses!

7. And this is the step I like. JUST SIT BACK AND ENJOY LIFE BECAUSE CASH IS ON ITS THE WAY!! Expect to see a little money start to trickle in around 2 weeks, but AT ABOUT WEEKS 3 & 4, THE MONEY STORM WILL HIT YOUR MAILBOX!! All you have to do is take it out of the mailbox and try not to scream too loud (outside anyway) when you realize YOU HIT THE BIG TIME AT LAST!!

8. So go PAY OFF YOUR BILLS AND DEBTS and then get that something special you always wanted or buy that special person in your life (or the one you want in your life) a gift they'll never forget. ENJOY LIFE!

9. Now when you get low on this money supply, simply re-activate this file again; Reposting it in the old places where you originally posted and possibly some new places you now know of. Don't ever lose this file, always keep a copy at your reach for when you ever need cash. THIS IS AN INCREDIBLE TOOL THAT YOU CAN ALWAYS RE-USE TIME AND TIME AGAIN WHEN CASH IS NEEDED!

HAVE FUN WITH IT!!!

****
****
THE NAMES LIST THE NAMES LIST THE NAME LIST
****

* HONESTY IS WHAT MAKES THIS PROGRAM SUCCESSFUL!!!
**
* 1.David Maxwell
* 1747 Stonybrook Ln.
* Brunswick, OH 44212 =

USA

*
* 2. John F. Bourgeois
* 3043 New Oak Lane
* Bowie, MD 20716
* USA
*
*
* 3. Lawrence Brown
* 4310 Sheldon Ave.
* Temple Hills, MD 20748
* USA
*
*
* 4. K. Noop
* PO box 23 =
* NL 2995 ZG Heerjansdam
* The Netherlands
*
*
* 5. D. Bolger
* Apt 9. Trident House
* 60 Claremont Road
* Sandymount, Dublin 4
* Ireland
*

****

The list will become more valuable as it grows in size. This is a service. IT IS PERFECTLY LEGAL! If you have any doubts as to the legality of this service, please refer to Title 18,Sections 1302 and 1341 of the US Postal Lottery Laws.

NOTE: Make sure that you retain EVERY name and address sent to you, either on computer or hard copy, but do not discard the names and notes that people send to you. This is PROOF that you are truly providing a service, and should the I.R.S. (=US Tax Agency) or some other government agency question you, you can provide them with this proof!

AGAIN, HONESTY IS THE BEST THING WE HAVE GOING FOR
US ON THIS PLAN.

Good Luck!

P.S.: You might expect me to say in this line that 'you must join, otherwise a lot of bad things will happen to you!', or 'if you don't send money yourself, you'll be cursed' or something like that. Well, I'm not. Remember: this is not about threat and super-stition but this is all about honesty and reality. And fun!

3444. Re: Anyone ever hear of a TAD M8?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: ddenter@nortel.ca
Message-ID: <4omqtu$3j5@bcarh8ab.bnr.ca>
Source record: 104989
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4okvf3$5mu@nadine.teleport.com>,
Steve Kennedy <prografx@teleport.com> writes:
>I had the pleasure of interfacing some voice encryption units to a pair of TAD M8 radios about
>5 or 6 years ago. They sure were a solidly built radio! I was very impressed with them.
>
>Unfortunately, I cannot help you on the mic pinout, but I DO remember the radio! TAD was based
>in Washington state if I am not mistaken. Do they still exist?
>

as far as I know, they exist. They certainly are a nice radio, one
tiny little mod and they become keyboard programable at the flick
of a switch (no I don't have the mod, but I did have a radio with
it done -- but its gone now :( )

later,
Dean.
--
Dean Denter work -> ddenter@nortel.ca
VA3CDD play -> ddenter@magi.com
[[[[[[[[[[[[[I speak only for myself]]]]]]]]]]]]]

3445. Mod for FT1000

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: K.S.
Message-ID: <4onvdc$5qn@peng.ping.at>
Source record: 104990

Who know a mod for receive below 100 kHz ?

Thanks... K.S.

3446. Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDsA9L9.82v@netcom.com>
Source record: 104991

Is there any sort of rule-of-thumb on choosing the correct core size for a toroid core tube used as substitue for air core coil in a tube-output HF final/amplifier section? For example, at 7 MHz, 700 volts/300 mA (maybe 100W output...) would a T200-2 core be required, or could a smaller one be used, or would the T200-2 even be sufficient? If you wanted to make a multi-band output network (with tapped coil), would you need to size the core for the highest operating frequency (assuming similar tube operating point for each frequency)?

Any advice appreciated,

73 Dave WB0GAZ dgf@netcom.com

3447. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: grohe@galaxy.nsc.com
Message-ID: <31af7300.1606446@139.187.128.43>
Source record: 104992
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

In the newsgroup sci.electronics.repair.
mreiney@hevanet.com (miker in Tigard, OR.) from
Hevanet Communications thoughtfully posted:

> I need to weld solder tabs onto a bunch of nicad batteries.
> Thought I'd ask before I risk electrocution.
>
> I don't have access to a proper welder, so I'd like to "make do".
>
> What's wrong with this picture? Anyone successfully welded tabs?
> Details please.

Been there, tried it. I usually end up welding the "welder" to the battery :^)
The connection, if successful, was pretty weak.

> On a related topic, I also have a bunch of nicads with tabs for
> push-on connectors. I need to save some space by soldering to the
> tabs. Of course, they won't solder (now I know why they were cheap),
> probably stainless. Is there a flux for soldering stainless?

Sand the area you want to solder to with some fine sandpaper first (~200-400 grit). If you are in a bind, you can use a pencil eraser. Sometimes scratching the surface with an awl or screwdriver tip will provide a rough surface for better adhesion.

*** Use a *HOT* iron! You do not want to heat up the battery too long. ***

This is one of the few times I pull out my Weller soldering *gun* (the one with the headlight). Or a 75W or greater soldering iron. The large thermal mass of the battery will suck the heat away from smaller irons.

The standard Weller-type soldering station, or 20-40W pencil iron, is not powerful enough. (although they work for AAA size cells).

Pre-heat the tip so it is nice and hot before starting. Make a little solder "pad" on the battery first. Then solder your PRE-TINNED wire to the solder "pad". Trying to solder the wire at the same time requires three hands, and you may melt the wire insulation while doing it.

When soldering the tops of the cells, be extra careful. Don't cover up the vent hole and watch that any excess solder does not run off and short to the case (If it does, put on your eye protection and grab your Soldapuldt!) You should have your solder sucker loaded and ready to go in case of just such an accident.

Also, watch that your length of solder does not come in contact with any "naked" parts of the battery pack.

It takes a little practice, but you will get the "feel" of it.

Cheers,
Paul Grohe

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Sr. Electronics Technician 2900 Semiconductor Drive
AMPS New Products Eng Group Mail Stop C2693
Mailto:grohe@galaxy.nsc.com Santa Clara, CA. 95052-8090 USA
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Usenet Disclaimer: Any opinions expressed are mine, not NSC's

http://www.national.com

For technical assistance, literature, or samples call:
NORTH AMERICA EUROPE
(800) 272-9959 +49 (0) 180-532 78 32
mailto:support@tevm2.nsc.com mailto:europe.support@nsc.com

3448. Re: Anyone got a service manual for President Lincoln??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: prografx@teleport.com
Message-ID: <4okino$t41@nadine.teleport.com>
Source record: 105062
Cross-posted to: rec.radio.amateur.equipment,rec.radio.swap,rec.radio.amateur.homebrew

Erik Finskas OH2LAK <finskase@ee.port.ac.uk> wrote:

>As the subject tells, I am looking for a service manual for President
>Lincoln.
>If you have one, please mail me. I would be interrested of a copy.

>Erik
>--
>Erik Finskas M1AAJ & OH2LAK
>Email Finskase@ee.port.ac.uk
> Lakki@clinet.fi
>University of Portsmouth, UK
>Department of Electric and Electronic Engineering

Isn't the President Lincoln the "export" version of the Uniden HR2510
10 meter Amateur transceiver?

You can get Uniden's parts department phone number on their web site
at:

www.uniden.com

If they can't help on the Lincoln service manual, an HR2510 is
probably fairly close if these radios are indeed different shades of
the same color.

Steve
WB7PSD

3449. Re: PA screen regulator plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4olgae$3r9@clam.niwa.cri.nz>
Source record: 105063

"Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk> wrote:

>AFAIK it's on ftp.nitehawk.com/rasmit as well, name of SCRNREG.ZIP.

That directory doesn't exist. However, I found some ham related stuff
in:

```
nitehawk:/pub/upload/rasmit> total 936
-rw-r--r-- 1 ftp 1000 20505 Feb 26 00:20 70cm.skd
-rw-r--r-- 1 ftp 1000 19242 Mar 9 03:52 9603.skd
-rw-r--r-- 1 ftp 1000 84025 Mar 7 09:28 anteme.gif
-rw-r--r-- 1 ftp 1000 96531 Mar 8 11:27 anttropo.gif
-rw-r--r-- 1 ftp 1000 116315 Apr 24 12:26 eme_bw1.jpg
-rw-r--r-- 1 ftp 1000 49376 Mar 2 09:59 jmvnew.jpg
drwxr-xr-x 2 ftp 1000 512 Apr 20 20:15 sig
-rw-r--r-- 1 ftp 1000 65821 Feb 26 00:19 skdlst18.zip
nitehawk:/pub/upload/rasmit>
```

...but not SCRNREG.ZIP. As of 2 minutes ago.

Wilbert, ZL2BSJ

3450. Announcing: EzPacket Ver2.20 for PMP/BayCom

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: William Kresl <wmkresl@townsquare.net>
Message-ID: <4olj2u$2ro@tribune.concentric.net>
Source record: 105064

Announcing: EzPacket Version 2.20 for PMP/BayCom

From: Bill-WB9BBC

I just received this post from Frank Domina, N9MXI, the author of the
EzPacket program for the PMP/BayCom modems. He can NOT be reached via
e-mail, so I am posting this note for him (read below). If you wish to
reply to him, it would be best to respond to THIS NEWSGROUP THREAD!

Frank has attached his NEW EzPacket Version 2.20 program to his note
(size=71Kbytes). Frank's release notes appear below. I will be happy
to distribute this program via E-MAIL for him if you would:

o Send E-MAIL via INTERNET to ME (WB9BBC): wmkresl@townsquare.net
(Or, via PACKET RADIO: WB9BBC @KD9JK.WI.USA.NOAM).

o Make the SUBJECT line of the e-mail: EZPACKET
(so I can sort thru the mess).

o No text body necessary, but if you wish you can include
your name/call/QTH. Make sure YOUR internet E-MAIL address
is CORRECT (I hate bounced back mail).

o I will send out programs on FIFO (first-in-first-out) basis, so
be patient if I don't get right back to you.

o The Program will be sent as a ZIP attachment (MIME), no decode
necessary. Just know where this ZIP program will go on YOUR system!
(I CAN NOT send the file as Packet RADIO mail, but I may send out
as a 7+ encoded file at a later date).

I haven't tried out this program yet, my BayCom modem is not hooked up.
If you have any comments, problems or bug-reports then please pass them
along thru the newsgroups. Cheerio!

Wm Kresl
WB9BBC (@KD9JK.WI.USA.NOAM)
wmkresl@townsquare.net
Delavan, WI USA

Hello. If you wouldn't mind putting the following out on a newsgroup, that
would be great. (For some reason, I cannot get news postings through our
firewall at work)

IF YOU DON'T MIND, PLEASE POST THIS to the "rec.radio.amateur.homebrew" and
"rec.radio.amateur.packet" news groups:

EzPacket is FREE DOS-based software and is for use with PMP and Baycom modems
and has multiple windows/connections support. It can be downloaded from from
the Precision BBS at (847) 985-9544. The name of the file will be EZPKT???.ZIP
where ??? is the version. The latest version is EZPKT220.ZIP. A User's Manual
is available from the author for a very minimal fee, however there is also
decent on-line help. Version 1.7 was widely distrubuted and there have been
recent updates since then as described below from the readme.txt that is
included with the software:

Version 1.8.x beta releases:
- Fixed BUG that did not display the session number correctly
when prompting for the session's upload file name.
- Removed prompt when FORCING an in-progress disconnect.
- Added display of found LPT and COM ports when editing config.
- Remembers and uses the last video mode (25 vs 43/50 line mode)
unless told otherwise on the command line (run EzPacket /?
for help)
- Updated the ALT-A "about" screen again
- Fixed bug that could cause nodes or stations heard lists to
become corrupted after clearing the lists.
- Added monitoring station include/exclude filters. The list is
"H" in the ALT-O options, and it is enabled for each window
under "D" then "window number" in the ALT-O options.
- Added clearing scrollback buffers (see ALT-H help for key)
- Added TAB/BackTAB to switch windows
- Added ability to take action on key pressed when exiting
Help Screen
- Fixed failure to write scrollback buffer or current window
(ALT-F & ALT-W) I think this bug was only in previous beta
releases.

Version 2.0:
- Added optional message types to filter when monitoring
- No longer tries to display data from unknown packet
tranport formats
- Added more config options for sound [(1) off, (2) on,
(3)only within text (typed or received), and (4) only from
user interface.)
- Most control chars are now changed to printable chars in the
scrollback buffer (i.e. CTRL-A displays as ^A, etc.):
+ Tabs still get translated to the appropriate number
of spaces.
+ Backspace now overwrites the previous character on the
same line.
+ Other printer control characters such as <VT>, <CR>,
<LF> and <FF> are NOT translated to printable
characters.
+ Bell chars beep (if enabled in configuration) when
FIRST "displayed" AND are STRIPPED from scrollback
buffer so quiet when scrolling.
- When typing in data, BELL chars (CTRL-G) display as " ",

TAB chars (CTRL-I) display as " ", and all other control
chars will DISPLAY as the character representing the typed
char + hex 80, BUT the true typed characters will actually
be taken as the input. For example CTRL-A, which is hex 01,
will be DISPLAYED as the character that is hex 81, which
happens to be "", but the typed CTRL-A will be taken as the
input. This is to simplify the user input line and make
normally undisplayable characters visible when typing.

```
Version 2.1:
- Fixed bug that cause lock-up if trying to display a control
character (i.e. ^D) when there was only room for 1 character.
- Removed redundant line in remote commands help screen.
- Added new ZOOM option (ALT-F10) to toggle session display
between windowed and full-screen.
- Added new /D[a] DEBUG option (run EzPacket /? for usage)
that dumps all received data in its raw form to a binary
file (ezpacket.dbg). The format of the variable-length
records in the file are as follows:
<2-ByteNumberOfDataBytes><DataBytes><0x7E><0x7E><0x7E>
The three 7E bytes are added for easier visual inspection
when viewed with a binary file viewer.
NOTE: This mode opens/writes/closes the debug file with
every received packet, therefore performance may
be degraded on slower computers with slower disks

Regards,

Frank Domina, N9MXI

------------------------------------------------------------------------------
```

3451. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4olqju$3r9@clam.niwa.cri.nz>
Source record: 105065

atkes@imap1.asu.edu wrote:

>V_peak is the voltage measured across the N turns. If the N turns are
>left open, they don't contribute to the the magnetic field since no
>current flows. You then measure the voltage induced by the magnetic
>field from whatever other turns there are.
<snip>
>You can calculate the flux from the currents in the windings too,

Thanks for the clarification Kevin. It sounds like the proper way to monitor flux change in a core is to monitor the voltage across a winding, as according to Faraday, this voltage must be proportional to dB/dt, regardless of saturation.

In case of saturation, B no longer follows H. So, to check for saturation in a toroid inductor in a output network of a transmitter, I would measure the current into the winding with a current probe hooked up to an oscilloscope, and display it against the voltage across the winding.

If v(t) is proportional to di(t)/dt at all times, the core is free of saturation. Saturation would show up where i(t) gets large, resulting in a collaps of v(t). Does that sound reasonable?

Wilbert, ZL2BSJ.

3452. Re: Help! 70MHz Amplifier???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4om0is$35k@crash.microserve.net>
Source record: 105066

Post / CC by Mail

Matt Bohn <bohn@unm.edu> wrote:

>I am currently working on an impedance matching transformer to
>convert from 50 ohms to the high 5000 ohms of the tank circuit
>that the pockel cell is in. Actually that isn't going to well
>either. The toroid gets rather hot when I apply 30 watts of
>70MHz and doesn't seem to multiply the voltage. The toroid
>appears to be the correct type: it is green/white, a T130-12.

That's much too high a ratio for a single transformer.
A circuit like this really needs a tuned tank for the
impedance transformation. Your concept of modifying a
6 Meter amplifier is probably workable, although at this
point, you might want to just replace the transformer
with the appropriate tank components.

73 & GL,
Jack WB3U

3453. Re: Just enough to hang my. . .antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4om372$35k@crash.microserve.net>
Source record: 105067
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

anthonys@ix.netcom.com(Anthony Severdia) wrote:

>Polypropylene would be best as an insulator but make sure it
>is BLACK for UV resistance (common stuff is yellow). But, why not
>use a couple of cheap glass insulators?
>
>Braided Nylon is NG because it deterioriates pretty fast.
>Dacron is much better and stretches less.

Dacron is the best of all these ropes. It is often available
at a reasonable price at larger hardware/building supply centers,
but it wil probably be labeled "polyester", not Dacron.

Polypropylene and nylon should be avoided for this use; they
are inferior to Dacron/polyester in every way.

73,
Jack WB3U

3454. Re: Just enough to hang my. . .antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: anthonys@ix.netcom.com
Message-ID: <4omd5c$r2f@dfw-ixnews10.ix.netcom.com>
Source record: 105068
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In <4om372$35k@crash.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:

>Dacron is the best of all these ropes. It is often available
>at a reasonable price at larger hardware/building supply centers,
>but it wil probably be labeled "polyester", not Dacron.

You are quite right but not all polyester is good quality. It's tough to "figure". If your suggested sources don't work, try a local boating supplies store, also called chandlers. The better materials are found there.

>
>Polypropylene and nylon should be avoided for this use; they
>are inferior to Dacron/polyester in every way.
>
I'm not a fan of polyproylene, either. It's quite common though, and somewhat better than nylon under continuous exposure to the sun.

Nice comments, Jack.

-=Tony=- W6ANV

3455. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4omhl4$2ea@newsbf02.news.aol.com>
Source record: 105069

In article <4olqju$3r9@clam.niwa.cri.nz>, wk@frc.niwa.cri.nz (Wilbert Knol) writes:

>If v(t) is proportional to di(t)/dt at all times, the core is free of
>saturation. Saturation would show up where i(t) gets large, resulting
>in a collaps of v(t). Does that sound reasonable?
>
>Wilbert, ZL2BSJ.

That all sounds reasonable, but the problem is almost never saturation (unless it's a HF pulse transmitter or a high permeability ferrite core, hi).

73 Tom

3456. Re: Class-C RF transistors ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: Lennart Nilsson <ln@hagagymnasiet.norrkoping.se>
Message-ID: <4omgi5$kq3@simba.lejonet.se>
Source record: 105070

The linearity of an RF transistor depends, among other things, on
die-size. To find out at what level it can be used for SSB you
wire it up, bias it for a low idling current and compare drive
and output powers. When you reach 1 db of compression the IMD
starts to build up. Better still is to run a two-tone test with
an analyzer.
73 de Lennart,SM5DFF

3457. UHF and Microwave homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: jcarey
Message-ID: <4omqs6$3bi@news-2.csn.net>
Source record: 105071

Hi All,

Is anybody in this group doing any homebrewing of gear in the UHF and Microwave bands? Specifically, I'm interested in working in the 915 MHz and 1280 MHz bands.

I'd like any first hand advice that you might have, but I'm especially interested in sources
for affordable oscillators, mixers and swtiches. I was thinking I'd use connectorized components for the really high frequency stuff and interconnect them with semi-rigid coax. If I absolutely must, I can cut a microstrip PC board on FR-4, but I'd rather not, since that
would be so hard to take measurements on later.

Also, I'm wondering what kind of phase noise I can expect from oscillators at in these bands. For typical narrowband FM do I need to use a synthesized oscillator, or would a simple negative resistance transistor oscillator be sufficient?

I know where to get this stuff commercially, but everybody seems to be asking an awful lot of money for it!

Thanks in advance,

Joe Carey
KB0VZA
jcarey@csn.net

3458. Re: Just enough to hang my. . .antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4oms3p$1t4@news.fwi.com>
Source record: 105072
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In <4okud8$9st@mtinsc01-mgt.ops.worldnet.att.net>, Chuck Bland
<BlandRanch@worldnet.att.net> writes:
>Greetings,
>
>I'm in the process of hanging a dipole antenna, and I will be using ropes
>at the ends to suspend it.
>
>What type of rope should I use? I live in Sacramento, CA. Hot, dry
>summers, rainy, windy winters. No snow.
>
>73's
>
>Chuck - n6dbt
>
>
How long is the dipole? How heavy is the wire you intend to use? How
long does the rope have to be? Overall, nylon rope works pretty well.
I have a 160 Meter dipole held up by thick string nylon. You can pick up
a spool at a Builders Square, Lowes, etc for 4-5 bucks. About 230 feet of
this heavy string. I double it, it lasts 3-4 years in very harsh northern Indiana
weather. I guess the rule of thumb is to get only what you need. Some of
this 'parachute cord' will outlast you and your QTH, but it's very salty.

Jim

3459. Re: Anyone got a service manual for President Lincoln??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: n4lq@iglou.com
Message-ID: <Ds9vzF.71L@iglou.com>
Source record: 105073
Cross-posted to: rec.radio.amateur.equipment,rec.radio.swap,rec.radio.amateur.homebrew

Would you settle for a service manual for President Clinton? It's much
more compact.

: > As the subject tells, I am looking for a service manual for President
: > Lincoln.
: > If you have one, please mail me. I would be interrested of a copy.
: >
: > Erik

: Perhaps the Walter Reed Army Medical Center or Bethesda Naval Hospital in
: Washington, DC could supply one.

: Sorry, couldn't resist :-)

: WA3ZXO

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

3460. COMPUTER SHOW / HAMFEST - June 16, 1996 (Ohio)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: n8jms@cars.org
Message-ID: <n8jms-3105961035440001@news.en.com>
Source record: 105074
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.swap,rec.ham-radio.swap,cle.biz,cle.forsale,cle.general,cle.internet

What:
HAMFEST - COMPUTER SHOW - ELECTRONICS FLEA MARKET

When:
June 16, 1996

Time:
8AM - 1PM

Where:
Nordonia High School, Macedonia, Ohio (Just south of Cleveland)

Join the Cuyahoga Amateur Radio Society at its 5th annual Hamfest!

This years Grand Prize:
- An Icom 2350H Dual Band Mobile!

And don't miss out on these door prizes:
- An Icom 2GXAT 2m Handheld!
- A 28.8K External Modem!
- A Handheld Scanner!

Tickets are $3.00 in advance. ($4.00 at the door.)

Inside Vendor Spaces are $11.00 each and include one admission ticket.
Additional spaces are available for $8.00. (Inside vendor setup will be on
Saturday night 6pm-9pm and Sunday morning at 6am.)

Outdoor Vendor Spaces are $4.00 each.

For reservations or info, call Rich James, N8FIL at 1-800-404-2282, visit
our WWW site at "http://www.cars.org" or send e-mail to: hamfest@cars.org

73 de N8JMS

3461. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4on3oj$ds0@crash.microserve.net>
Source record: 105075
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Chuck Bland <BlandRanch@worldnet.att.net> wrote:

>A link-coupled tuner would do the job quite nicely. Sure, it may
>set technology back about 30 years, but the system would be better
>than a "mere balun".

The unqualified use of baluns is what has set the Amateur community
back thirty years. Overlooking the advantages and versatility of
link coupling on the basis of its age is akin to replacing the
family sedan with a hovercraft. ;)

73,
Jack WB3U

3462. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4on3nj$ds0@crash.microserve.net>
Source record: 105076

wk@frc.niwa.cri.nz (Wilbert Knol) wrote:

>Thanks for the clarification Kevin. It sounds like the proper way
>to monitor flux change in a core is to monitor the voltage across a
>winding, as according to Faraday, this voltage must be proportional
>to dB/dt, regardless of saturation.
>
>In case of saturation, B no longer follows H. So, to check for
>saturation in a toroid inductor in a output network of a transmitter,
>I would measure the current into the winding with a current probe
>hooked up to an oscilloscope, and display it against the voltage
>across the winding.

Another method is to measure the distortion products as the signal
is increased and note the point at which they begin to rise.

73,
Jack WB3U

3463. Re: Here is how to solder Nicads without tabs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4on3sb$dp5@blixen.aquilagroup.com>
Source record: 105077

You might also check with some of the RC car types.

The racers think the tabs have to much resistance, so they always solder up thier own packs using flat braid & matched cells.

Of course they abuse the cells (rapid charge & discharge) , so if life in "normal" service were reduced by 50% they probably wouldn't notice it.

-ko0b

3464. Re: Just enough to hang my. . .antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-05-31 00:00:00 UTC
From: BlandRanch@worldnet.att.net
Message-ID: <4on5r1$ho7@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 105078
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In article <4ol72c$662@dfw-ixnews9.ix.netcom.com>, anthonys@ix.netcom.co
says...
>
>In <4okud8$9st@mtinsc01-mgt.ops.worldnet.att.net> Chuck Bland
><BlandRanch@worldnet.att.net> writes:
>>
>>Greetings,
>>
>>I'm in the process of hanging a dipole antenna, and I will be using
>ropes
>>at the ends to suspend it.
>>
>>What type of rope should I use? I live in Sacramento, CA. Hot, dry
>>summers, rainy, windy winters. No snow.
>>
>
> Polypropylene would be best as an insulator but make sure it
>is BLACK for UV resistance (common stuff is yellow). But, why not
>use a couple of cheap glass insulators?
>
> Braided Nylon is NG because it deterioriates pretty fast.
>Dacron is much better and stretches less.
>
> -=Tony=- W6ANV San Francisco
>

Well, there are insulators on the end of the antenna, but I'll need some
rope to tie to the other end of the insulators to suspend the antenna in
the air.

Chuck - n6dbt

3465. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: ESPI35E@prodigy.com
Message-ID: <4oo7vb$u2s@usenetz1.news.prodigy.com>
Source record: 104993

A few years ago at Dayton I witnessed a guy who'd modified a standard microwave oven to do ATV. The bandpass was good enough for color and he'd modified a satellite receiver down-converter and receiver to receive the signal. It looked pretty good, especially since he was able to run about 250 watts cleanly modulated on a 600 watt microwave oven.

It was kind of comical since he used the oven cavity as the location for the pair of 4CX250b tubes for the modulator. Just open the interlocked front door for access. And of course the mechanical timer acted as a time-out-timer.

If seems that if it could do video, it'd be pretty easy to do wideband FM. You'd probably have to stay wideband, since the frequency stability of a magnetron is pretty poor.

Basically the 4CX250b's current modulated the magnetron. I think he was able to pull the frequency about 10 MHz this way.

I remember also that he won the "Great Ideas" contest in one of the major RF magazines. RF Design, or one of those.

3466. Re: Relays-fast?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: n4lq@iglou.com
Message-ID: <DsAr70.Ln@iglou.com>
Source record: 104994

Surplus Sales of Nebraska has dozens of vacuum relays. I checked them out
at Dayton. Expect to pay $80 for a good one with less than 8ms delay.
Also. Fair Radio Sales has some but they appear to be slower. 73

W8JI Tom (w8jitom@aol.com) wrote:
: Does anyone know a source of fast relays suitable for HF amplifiers?
: 73 Tom

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

3467. Re: Mobile Noise Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: cmoore@vegas.ch.intel.com
Message-ID: <4oodji$11mg@chnews.ch.intel.com>
Source record: 104995
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4oic8d$gcc@newsroom.hitc.com>,
Chris Smith, NR3O <csmith1@ccgate.hac.com> wrote:

>I get a rushing hash (like white noise) only when the engine is under load.
>It is enough to wipe-out weaker stations, but not those louder ones.
>I throw in the clutch and it goes away, even if I then race the engine
>(leads me to think it's not ignition, but some sender unit--perhaps
>fuel injection electronics radiate only under load?).

Hi Chris, I have begun to suspect the ABS system is causing a
similiar problem in my S10. Does anybody know if the clutch
position is sensed by the ABS?

73, Cecil, KG7BK, OOTC (not speaking for my employer)

3468. Physics of FM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: allanc@netcom.com
Message-ID: <allancDsAzvn.M5I@netcom.com>
Source record: 104996

Hello everything.

(knowledge of the geography or mileage of northern and/or southern
California will be helpful in answering this post. Sorry I don't have better
numbers)

I don't know if this is a reasonable place to post this or not. But because
I can't think of where else to post, I'll give this a shot.

This post is inspired by the contrast between my various observations
and my father's theories. Also my various observations contrast with each
other a little.

Can anyone tell me what the facts are about how far FM radio can reach
in the United States? There must be federal regulations on the power of
the stations and physical limitations due to either the curvature of the earth
or just the distance which would make it impossible for a signal to
stretch beyond a given distance. I am in San Diego and am able to
pick up a Los Angeles station (K-Earth) load and clear, although it may
break up every now and then. If you live in this area or are familiar
with Southern California, you know what distnace that is. (Half way Oceanside
to TJ, I'm in LaJolla). I don't know, I guess it's between 100 and 150 miles
from here to LA

There's another station (91x) whose broadcast tower is on the hills of Tijuana
and supposedly doesn't abide by the FCC rules because it's in Mexico..
So it has a super-strong signal, and my brother said that he was actually able
to hear them once or twice in Santa Barbara (250 miles?).
My father says that's doubeful due to physical limitations.

There's a third station (102.1) which is located in Oceanside, border between
San Diego and Orange counties. That's probably only 100 miles from L.A.
Maybe less, depending on how you count Los Angeles. Would you expect
to be able to hear that station well into LA?
I have no problem (or little problem) getting them here in LaJolla
(30 miles?) but in Hillcrest (another 15 -- 45 or 50 miles?) the signal
started to break up.

Finally, there's one more station (100.3 I think) which is KBAY I think
in the San Francisco bay area, which I have been able to hear all the way
down 101 to Gilroy or even due East of Monterey.
I am not sure how far this is -- maybe 130-150 miles?

My father has assured me that there MUST be a repeated somewhere in
order for that signal to reach so far.

So what's the deal? Is there a magic number of miles (1) that an
average-to-strong signal (2) can travel and be picked up by a reasonably
good receiver? (3)
What about a station which doesn't pay attention to FCC limits? (4)

Please let me know if this should be re-posted elsewhere or if I should
look in a reference at a library.

Thanks

-Allan
allan@carhart.com

(1) assuming average weather conditions --probably more sunny days than cloudy
ones in North and South California
(2) assuming the radio station is within the FCC limits but at the high end
(3) boom box with analog tuner and/or high-end walkman with digital tuner
and/or car radio with digital tuner
(4) I would assume that 91x (91.1) doesn't exceed federal limitations
by too much due to either financial limitations or Mexicon Government limits.
--

"The most difficult thing in the world is to know how to do a thing and
to watch someone else do it wrong without comment."
-- Theodore H. White

3469. AM Modulation Scheme ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: k1el@aol.com
Message-ID: <4oorv2$qsi@newsbf02.news.aol.com>
Source record: 104997

I have a military AM modulation transformer that I would like to use in a low power AM transmitter I am building (25 watts). The question is: The transformer has a single center tapped coil and is intended for push pull modulation. One leg of the coil has a much higher current rating than the other (70 ma vs 150ma) this is the end that would be connected to the plate of the final amplifier stage of the transmitter. Does anybody have any schematics for this type of modulation. I suppose it is similar to a Heising configuration except that the modulation drive is double-ended rather than single.

Regards Steve K1EL

3470. Mobile Noise Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: mike@sneezy.UUCP
Message-ID: <655ToD1w165w@uudell.us.dell.com!sneezy>
Source record: 104998

Chris:

Years ago before electronic ignitions I used to run my spark plugs for many miles, until they needed replacing because the end of the hook had been burned off. I re-gapped them only when they needed to be gapped.

I could tell when the plugs needed re-gapped driving on the highway. When I went up hill and pressed on the accelerator, the engine would loose power. Re-gapping the plugs always fixed that problem. Made me think that when I pressed on the accelerator, a higher voltage was needed to make the plugs fire!

This effect shouldn't cause a hash noise, but maybe your RFI is related to that effect???

Just a thought, but I wonder if anyone has experimented, changing the spark plug gap to see if it changes RFI? Comments anyone?

To email me, use the address below, not the one above!

All the Best - Mike ND1R
--
Voice mail/fax (512) 837-0720 x-1 Austin, Tx 78714-2895 (po box)
To e-mail me, use this! --> sneezy!ND1R@uudell.us.dell.com

| Life is like a dog-sled team. If you ain't the lead dog, |
| the scenery never changes. -- Lewis Grizzard |

3471. Re: batteryless radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Lawrence Karthauser <mit@pavilion.co.uk>
Message-ID: <VA.00000002.0035eb5c@default>
Source record: 104999

Our local Maplins in the UK does such a radio for some 14 Pounds stg.
Looks to be quite what you want. Could send you details or scan section
in catalog for you

Lawrence (UK)

3472. Re: look for a schematic for a transverter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Lawrence Karthauser <mit@pavilion.co.uk>
Message-ID: <VA.00000003.0035f27e@default>
Source record: 105000

I can get transverters from our local Maplins, or portable computer
people do them for notebooks.

Regards

3473. Help -- Old Texas IC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Lawrence Karthauser <mit@pavilion.co.uk>
Message-ID: <VA.00000004.0035f9a1@default>
Source record: 105001

Also looking for details of old Texas IC TMS3802 or TMS3812 - binary divider chain for organ note generation.

Any info appreciated

Lawrence

3474. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <4opjrv$1qj@btc1.up.net>
Source record: 105002
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

You can probrably silver solder onto the tabs.

3475. Re: Saturation in toroid cores

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960601104613.16724E-100000@spork.callamer.com>
Source record: 105003

Yes and in addition, use a scope to monitor the voltage. ANY distortion whatever of the signal is a clue to saturation! CliffButtschardt W6HDO/K7RR

On Fri, 31 May 1996, Wilbert Knol wrote:

> atkes@imap1.asu.edu wrote:
>
> >V_peak is the voltage measured across the N turns. If the N turns are
> >left open, they don't contribute to the the magnetic field since no
> >current flows. You then measure the voltage induced by the magnetic
> >field from whatever other turns there are.
> <snip>
> >You can calculate the flux from the currents in the windings too,
>
> Thanks for the clarification Kevin. It sounds like the proper way to
> monitor flux change in a core is to monitor the voltage across a
> winding, as according to Faraday, this voltage must be proportional to
> dB/dt, regardless of saturation.
>
> In case of saturation, B no longer follows H. So, to check for
> saturation in a toroid inductor in a output network of a transmitter,
> I would measure the current into the winding with a current probe
> hooked up to an oscilloscope, and display it against the voltage
> across the winding.
>
> If v(t) is proportional to di(t)/dt at all times, the core is free of
> saturation. Saturation would show up where i(t) gets large, resulting
> in a collaps of v(t). Does that sound reasonable?
>
> Wilbert, ZL2BSJ.
>
>
>
>
>

3476. Re: NEW! Radio Equipment Spec Sheets at Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4oq8qq$png@news.accessone.com>
Source record: 105004
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <4ogtgs$a9a@crash.microserve.net>, jackl@pinetree.microserve.com says...
>
> mreiney@hevanet.com (miker in Tigard, OR.) wrote:
>
>>Neat web page. Lots of good stuff.
>>But it takes forever to load... like 2 minutes when the web is
>>loaded. Would it be possible to put all the neat graphics in a
>>sub-page, or at least show the links before posting the graphics so
>>we don't have to wait?
>
>If you're using Netscape, why not set it so it only loads graphics
>on demand? That's easier than trying to convince Web page authors
>to change their designs.
>
>73,
>Jack WB3U

Thanks for the comments. By our measurements the typical user operating at 21,600 to 28.8 kbps loads the main page in 20 to 30 seconds; at 14.4 kbps you'll see about 45 to 60 second loads. A 14.4 modem is our target user. However, the actual load time varies depending upon server load and Internet traffic. We rent our server space at AccessOne in Kirkland WA. They connect to the Internet over two T-1 connection (1.544 mbps each).

Depending on your browser, you may be able to disable the display of graphics or ensure that your browser caches images so that they do not need to be downloaded each time. My browser also lets me page up and down and read pages before the entire page has been loaded. This let's me select things to read without necessarily waiting for the entire page to load.

We are also in process of setting up the web site on a new ISP that may have higher performance. We'll post a message when that becomes availble - probably its a month out at least.

We know that as our hobby web site has grown, the size of the pages has also grown. We've redesigned the web site twice since starting and its time for another redesign to accomodate the increased content.

We would like to do a redesign some time but that's easier said then done. We run this web site solely as a hobby. My real job typically uses up 11 hours a day of my time; we've got 3 small kids. And other time pressures too. Sometime we will change the page design again but I would not expect more than perhaps a 1/3rd reduction in download time.

Ed

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

3477. Re: homebrew GPS receiver ? on a balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Andy Barrow <abarrow@ccnet.com>
Message-ID: <31B0B538.5F54@ccnet.com>
Source record: 105005

HH357 wrote:
>
> GPS units also have a maximum altitude

How can that be? They are frequenly used in aircraft, and the latest
AMSAT Phase III will have one aboard.

Andy - WD6CWR

3478. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: kb8jvh@nextek.net
Message-ID: <4oq4h7$hk8@news.ee.net>
Source record: 105006

Hi Pete:
Drop me a line at http://www.thresholdav.com/jvh.htm and I'll send you
plans that will work well. I can also supply you with the parts.
Tony / KB8JVH
Peter Markham wrote:

>
> Does anyone on the net have a url for a sound, real world
>design for the fabrication of coaxial matching lines to allow
>use of catv al 1/2" hardline from a 52 ohm source to a 52 ohm load
>on 144 and 440 mhz?
> TIA,
> Pete/wa4hei

3479. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Cecil Moore <kg7bk@primenet.com>
Message-ID: <4or2i9$kvg@nnrp1.news.primenet.com>
Source record: 105007

```
: Does anyone on the net have a url for a sound, real world
: design for the fabrication of coaxial matching lines to allow
: use of catv al 1/2" hardline from a 52 ohm source to a 52 ohm load
: on 144 and 440 mhz?
```

Hi again Peter, I was thumbing through "Reflections" at the barber shop today and came across the following: Per 100 ft of 75 ohm 1/2" hardline on 440, the matched line loss, ie with an SWR of 1:1, is 2db. With an SWR of 1.5:1 it is 0.1 db worse, ie 2.1 db. Moral: don't even for a minute worry about the mismatch. An SWR of 1.5:1 is near perfect!!!

73, Cecil, KG7BK (W6RCA soon), OOTC

3480. LOWFER and 2M tx/rx schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: mwilsher@randomhouse.com
Message-ID: <4oqf25$d2b@doc.zippo.com>
Source record: 105008

Hello,

I'm looking for sources, either internet based or otherwise,
of schematics of Lowerfer transmitters and recievers as well as 2 meters
schematics. I am interested in QRP (under 1W) comunications. I haven't
found much on the internet. Is there a site or something around.

Please respond via e-mail or post.

Thanks
MikeW - KC5DOB

3481. Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Nick Button <nick@plains.demon.co.uk>
Message-ID: <833637745snx@plains.demon.co.uk>
Source record: 105009
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Hi,

Does anybody know of any circuits for add-on synchronous detectors for AM broadcast reception ?

I keep reading how wonderful they are supposed to work but I'd like to put one together and try it myself before I shell out cash on buying a new RX...


```
+--------------------------------------+
| Nick Button, Nottingham U.K. |
| email:- nick@plains.demon.co.uk |
| ham radio:- G4IRX @ GB7NOT.#23.GBR.EU |
| fax:- +44-115-956-1489 |
+--------------------------------------+
```

3482. Late 60's early 70's ARRL Handbook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Joe Leikhim <Jleikhim@nettally.com>
Message-ID: <31AFD896.2FB2@nettally.com>
Source record: 105010

If anyone out there has this vintage Handbook please check for a 6 meter
amplifier circuit using a pair (Au PAIR?) 4-125 or 6155 tubes in
push pull. I would like a reprint of the schematic and any power supply
or biasing details for a half finished project. Thanks
--
Joe Leikhim
Jleikhim@nettally.com
"tv dinner by the pool,
i'm so glad i finished school"-F.Zappa 1967

3483. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: Joe Leikhim <Jleikhim@nettally.com>
Message-ID: <31AFD54B.5CD7@nettally.com>
Source record: 105011

Stephen Muther wrote:
>
> In article <Ds8Cox.1En@world.std.com>, <wdr@world.std.com> wrote:
> >In article <4oi13i$163@zombie.nortel.net>,
> >MIKE STEWART <mikestewart@4YOU.NET> wrote:
> >> A co-worker and I are working on using the magnatron from a microwave to
> >> transmit back and forth to each other. but we've run into a problem when it
> >> comes to modulating the magnatron. ...
> >>
> >I am told there was an article on this years ago in '73' magazine but
> >I haven't found any library with back holdings this side of Amherst,
> >so I haven't pursued it.

I remember an article in 73 magazine that used a microwave oven for atv
transmission. I remember that the magnetrons were locked on freq with an
injection oscillator or a simple PLL. For some reason it was necessary
to remove the bypass caps on the filament lines of the magnetron. good
luck.

--
Joe Leikhim
Jleikhim@nettally.com
"tv dinner by the pool,
i'm so glad i finished school"-F.Zappa 1967

3484. !! Help !! - Calculating cascade (IP3) intercept points and intermod products levels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: sjandrew@ozemail.com.au
Message-ID: <4op6un$r4f@reader1.reader.news.ozemail.net>
Source record: 105012
Cross-posted to: aus.electronics,aus.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.misc

Hi
Can anybody tell me how I can calculate the overall input
and output third order intercept points (IP3), as well as
the intercept point for each stage, given several stages.

I would also like to calculate the intermod product levels
(IP3) for each stage.

When not stated, do manufacturer's IP3 figures usulay refer
to input or output ?

Although I am able to find many references calculating
cascade noise figures, none deal with the above.

Formulae, worked examples or pointer to recommended texts
would be much appreciated

Replies to sjandrew@ozemail.com.au please.

Thanks in advance..

Steve Andrew

3485. VOX Circut

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-01 00:00:00 UTC
From: gkammerzell@denver-net.com
Message-ID: <gkammerzell.22.037E9300@denver-net.com>
Source record: 105013

Can any ony help me with a simple VOX circut..I have gotten several
phone headsets that will work with HTs but I would like to include
a vox........thanks....George N0ZED

3486. Re: Mobile Noise Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4oshpg$jri@crash.microserve.net>
Source record: 104929
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

cmoore@vegas.ch.intel.com (Cecil A. Moore~) wrote:
>Chris Smith, NR3O <csmith1@ccgate.hac.com> wrote:

>>I get a rushing hash (like white noise) only when the engine
>>is under load. It is enough to wipe-out weaker stations, but
>>not those louder ones. I throw in the clutch and it goes away,
>>even if I then race the engine (leads me to think it's not
>>ignition, but some sender unit--perhaps fuel injection
>>electronics radiate only under load?).

>Hi Chris, I have begun to suspect the ABS system is causing a
>similiar problem in my S10. Does anybody know if the clutch
>position is sensed by the ABS?

I don't know much about ABS, but I do seem to remember something
about fuel injection that has to do with the way some systems
meter intake airflow. If I'm not mistaken, they use a heated
wire at the input to the metering unit, and airflow is determined
by measuring the current change through the wire. As more air
flows, the wire becomes cooler and more current flows. This is
computed in conjunction with ambient air temperature and other
factors in order to arrive at instantaneous calculations of
airflow. Also, if I'm correct about the system, this particular
function is cut off during idle, at which time radiation from the
metering unit decreases. It's possible this might also be linked
to the clutch, as airflow metering is not so critical at no load,
even when the airflow valve is opened to accelerate the engine.

Perhaps someone more knowledgable with current designs will know
whether this system is still in use, and whether I'm correct
about the way it works.

73,
Jack WB3U

3487. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Kevin Alfred Strom <ka_strom@ix.netcom.com>
Message-ID: <31B1F6CB.24D6@ix.netcom.com>
Source record: 104930
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

I suggest writing to Motorola and asking for information on their
AM stereo detector chips. They include (along with other circuitry you
could leave out for your purposes) a synchronous AM detector.

If you are seriously interested in developing a product, they might even
send you some free chips to play with.

Let me know how it goes.

With best wishes,

--

Kevin Alfred Strom

Resource list; not all are affiliated with me;
I speak only for myself:

Occupied America Homepage:
http://ourworld.compuserve.com/homepages/america/

Information on Amateur Radio Operations on 3950 kHz:
http://www.usaor.net/users/mckinney/

The Finest in European Art:
http://www.telecall.co.uk/~synergy/gframing/cat2.html

Patriotic Resistance:
http://www.natvan.com/
http://www.natall.com/

3488. How do you make a 7 ns. delay line @ 146 Mhz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: mike@sneezy.UUCP
Message-ID: <L6BwoD1w165w@uudell.us.dell.com!sneezy>
Source record: 104931

Somebody here might know how to do this. I want to make about a 7ns delay line inside an inch square and a quarter inch high on a PCB. Frequency bandwidth is 140-150 Mhz and any Z will work. I'm thinking of the distributed L-C type.

Is there any information about how to do this?

Maybe SAW chips would work. Is there a primmer somewhere? Where could I get them at this delay? Who makes them?

Maybe I could make a serpentine etch on a PCB?

All info/pointers/experience/programs etc cheerfully accepted.

This will be used in a wideband FM Rx using a NAND gate discriminator for linearity and no adjustments.

Email or Post is fine. Use address below for email though!

All the Best - Mike ND1R
--
Voice mail/fax (512) 837-0720 x-1 Austin, Tx 78714-2895 (po box)
To e-mail me, use this! --> sneezy!ND1R@uudell.us.dell.com

| Life is like a dog-sled team. If you ain't the lead dog, |
| the scenery never changes. -- Lewis Grizzard |

3489. CATV matching problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: chuck@home.hsix.COM
Message-ID: <763@ham.hsix.com>
Source record: 104932

> Peter Markham wrote:
>
>
> Does anyone on the net have a url for a sound, real world
> design for the fabrication of coaxial matching lines to allow
> use of catv al 1/2" hardline from a 52 ohm source to a 52 ohm load
> on 144 and 440 mhz?

This is not a url, but will provide a solution to your
problem, nonetheless.

Find or construct two, one-quarter wavelength (at 144 Mhz)
long, low loss, coaxial cable assemblies having a characteristic
impedance as close to 62.4 ohms as possible. Connect one of these
cables to each end of your CATV cable. You will have a
completed line that will be matched to 52 ohms at each end.
The two, quarter wavelength cables act as transformers to
match the impedance of the CATV cable to the 52 ohm source and
load impedances. The completed cable with match well at 440
Mhz also, because 440 Mhz is nearly an odd multiple of 144
Mhz. This setup will also be broadband enough for the two
amateur bands. Any length of CATV cable may be used.

A previous post stated that the CATV cable could be used alone
without any matching. I do not agree. If the length of
the cable is an even multiple of one-half wavelength at
the frequency used, then a feed with *any* characteristic
impedance could be used. Otherwise (except for a 52 ohm feed),
depending on the actual length, the match could be *awful*.
Even if the CATV line is cut to an even multiple of one-half
wavelength at one of the bands, it would not be unsuitable for
both bands since the two bands are not even multiples of each other.

Chuck, N2UCN

3490. digital filter design program needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: mike@sneezy.UUCP
Message-ID: <qmBwoD4w165w@uudell.us.dell.com!sneezy>
Source record: 104933

Borlez:

There is a newsgroup specifically for digital filters, comp.dsp
Digital Signal Processing using computers. Get their FAQ via FTP
from rtfm.mit.edu(?), it should help or the group can.

All the Best - Mike ND1R
--
Voice mail (512) 837-0720 x-1 Austin, Tx 78714-2895 (po box)
To e-mail me, use this! --> sneezy!ND1R@uudell.us.dell.com

| Life is like a dog-sled team. If you ain't the lead dog, |
| the scenery never changes. -- Lewis Grizzard |

3491. Homebrew rigs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Kenneth Keslar <k.keslar@worldnet.att.net>
Message-ID: <4osock$odm@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104934

Hi all!

I am interested in how to build a 2 meter/ 70 centimeter rig.....

If any body knows how to or can give me some advice please e-mail me at
k.keslar@worldnet.att.net

thanks in advance.

73 DE KB2WKW
Kenny

```
------------------------------------------------------------------------
77777 333 DDDDD EEEE K K BBBB 22 W W W K K W W W
7 3 D D E K K B B 2 2 W W W K K W W W
7 333 D D EEEE KK BBBB 2 W W W KK W W W
7 3 D D E K K B B 2 W W W W K K W W W W
7 333 DDDDD EEEE K K BBBB 22222 W W K K W W
------------------------------------------------------------------------
```

3492. Re: wanted: Dec '89 "Ham Radio Magazine" article

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Paul Christenson <christen@codger.physics.duq.edu>
Message-ID: <31B20315.21298B3D@codger.physics.duq.edu>
Source record: 104935

joe haas wrote:
>
> I am looking for an article that appeared in the Dec '89 Ham Radio issue.
> Its title was something like "Multi Megabit digital link...". The
> article describes how to us a set of gunnplexers for a high speed digital link.

The ARRL picked that up, and ran it in their "Handbook" for a few years. It's not in the 1996 one, though.

However, it is in another ARRL publication; the title is something like "Packet Radio: Speed and More Speed" or something similar.

3493. SCC board schematics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: emh33625@pegasus.cc.ucf.edu
Message-ID: <4ot0gu$3c0@news.cc.ucf.edu>
Source record: 104936

Anyone out there know where I can get schematics for one of the SCC boards supported by Linux?

Erik
N2NRP

3494. Re: batteryless radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Colin Fry <ColinFry@bedales.demon.co.uk>
Message-ID: <5SqtwAA6GZsxEwLp@bedales.demon.co.uk>
Source record: 104937

In article <VA.00000002.0035eb5c@default>, Lawrence Karthauser
<mit@pavilion.co.uk> writes
>Our local Maplins in the UK does such a radio for some 14 Pounds stg.
>Looks to be quite what you want. Could send you details or scan section
>in catalog for you
>
>Lawrence (UK)
>
I tried it out in the Portsmouth (UK) store about four days ago, the
handle is connected to a generator which charges a nicad, works fine and
is cheap. They accept credit cards and will ship overseas. I suspect
it's made in the far east which means its probably available in th US
somewhere.
--
Colin

3495. Ultra high performance receivers, misc thoughts, Dayton talks,

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199606022148.QAA07833@tri.net>
Source record: 104938

With some hesitation as there are quite a few expert receiver designers lurking here, here are some thoughts, reports, musings on this topic as there has been a recent thread started....this is really loose.

Went to a bunch of seminars at Dayton this year:

Don't remember who said it, but supposedly the Cohn minimum loss filters are easy to design but are very critical and mimimal component variation will quickly turn one into a very lossy filter.

Bought ARRL Radio Designer and soon found that I couldn't access the schematic capture part so didn't follow up on that yet. (A joke I think!) Back to Hayward's excellent ladder program with optimize and the latest version of P-Spice. Will play with the variation problem when the snow flies.

Then stumbled into an excellent presentation at Stauffer's for the DXers given by JA1RPK on design of the new TS-870S. He has been involved in design of every rig since the TS-120 and is the Engineering Manager on this rig. Unfortunately, they had a bar at the back and all of the big DXer were in the back talking loudly and comparing their big ....s, and every time another round of drinks was received or another big .... came in, the noise level went up. About 30 of us were huddled around the overhead projector trying to hear Mr. Kawana's presentation and I really was embarrased by the behavior until he mentioned that he was used to working 20 DX! Some pearls:

After an infomercial, he emphasized that there was a big difference between integrated DSP and the add-on boxes. Largely in the AGC. The boxes reject signals that pump the AGC and you wonder why the signals sound funny. (Although in one of my first attempts at RX bldg, an early stage was overloading and the filter kept it from the AGC)

They tried using direct conversion (I'm not certain if to AF or a low IF) with minimal filtering...worked with a commercial RX, but not good enough for the ham bands! And they are using two 2 ea 56002 Moto DSP's running at 40 MHz. (Rockwell has announced..in Microwaves and RF, May 96, p. 23) a newdirect conversion RX for some fighter program...use of direct conversion DSP "reduces unit prices from $50,000 to $38,000". wonder about multisignal performance?)

So Kenwood uses the typical upconversion to 73.05 MHz using 4 ea 2SK520 devices....no schematic so wonder if a switching mixer? Then to 8.83 MHz for 6 and 3 KHz BW filtering (as well as bypass mode). He emphasized that you didn't want too good (narrow?) of filters here as it messed up the AGC and ringing. Then to 455 KHz for 15, 6, and 3 KHz filtering (Rockwell mechanical filters I seem to remember) Then to 11.30859375 KHz for DSP processing. Sounds to me like a lot of mixers, each with some added intermod.

They use some 18 bit A/D (SK5340) sampling at 45.2349375 KHz. After DSP the data goes to 3 D/A converters used in the CD industry to get back to audio. All calculations are in 24 bits which has a dynamic range of 144 dB. There was some discussion on this.

I suspect that the filters used are IIR as their "In Depth Manual" states "In fact, with superior circuit design skills and DSP processing power available, one can desigh IIR filters with sharp characteristics yet with group delay distortion reduced to the level one finds with FIR filters".

He was really proud of their AGC. It works with a one bit D/A (proprietary) that gives exceptional performance. (I earilier thought of using the most significant bit of the A/D to pulse the AGC so that each time you were about to overload the conversion, another pulse would lower the gain very rapidly. Of course, then you need to get it to decay.) He described a strong signal that masks the desired signal...when it stops, their AGC brings up the gain very rapidly so that you can pick up a bit of desired signal before others can hear it.

A graph in the manual shows 14.100 dynamic range of 108.6 dB with an IP of +32.7 dBm with Noise floor of -130.2 dBm in the 400 Hz filter mode.

It looks like a great rig with anything you could want..keyer..etc., but will stay with the 940 for a while and keep building.

Strays:

I have a couple of the AD600 series devices. Has anyone actually seen any dynamic range type measurements on these. The concept of attenuator switching is great, but wonder what non-linear devices do the switching, especially the slider?

Then too, why not just oversample at 455 KHz (the Moto chip will handle that) and decrement the data?

I bought one of the AD 9850 eval boards. Gee, no onboard clock..picked up a 120 MHz one at Dayton to plug into the place provided. No filtering or buffering provided. Of course, anyone doing evaluation would want direct access. And the advertised Windows program lets you enter the clock freq, the desired output rreq and has a slider for output phase. That's just a few lines of basic which I had to do to use it to scan up and down the sides of some filters to look atspurs. No high tech spectrum analyzer here.

Sorry this is long, butthought a few might want the info.

Please don't shoot the messenger.

Lawrence E. Stoskopf, M.D.
N0UU

3496. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ot4c2$7ck@newsbf02.news.aol.com>
Source record: 104939

In article <4osb2v$hgo@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>
>At 700 volts/300 ma plate input, E/I equals 2,333. If we assume
>that the conduction angle is 50 degrees, the operating impedance
>will be 1,167 ohms.

Do you mean 180 degree conduction angle instead of 50 degrees??

>I'll round this to 1,200 ohms. For 100 watts
>output, this represents an RMS voltage of 346 volts. The output
>end of the coil will be operating at an impedance of 50 ohms,
>which represents an RMS voltage of 71 volts. Thus, the coil will
>see a differential voltage of 275 volts.

Nada. There is a phase difference being negelected. The peak voltage
across the coil is a complex issue that involves the actual operating
parameters of the network. The phase difference across the input and
output voltages is probably somewhere between 90 and 180 degrees, and more
likely at the 180 degree end.

You will also have an operating Q related problem. The current and voltage
are no longer in phase, VAR power in the tank can be many times higher
than the output power.

>>Any advice appreciated,
>
>My advice is not to do it.

Good advice.

73 Tom

3497. What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Jay Radcliffe <n8rhv19@mail.alliance.net>
Message-ID: <4ot7gs$403@allinux2.alliance.net>
Source record: 104940

Hello,
I am interested in building a tube amplifer for my HF rig (Kenwood TS-940). What is either a good
book to read to help me understand how to build one and/or a good project already designed to help
me accomplish this task. I'm not in a rush to have this amp, it's more of something to keep busy.
HiHi...Thanks in advance.

--
Jay Radcliffe

Amatuer Radio Station N8RHV
n8rhv19@alliance.net
n8rhv@hamgate.cc.wayne.edu

3498. Mac Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Nick <simba@uwyo.edu>
Message-ID: <4ot6i1$ag6@horn.wyoming.com>
Source record: 104941

Anyone know where to find or have plans for a TNC/Packet modem for the Macintosh via the 8-pin serial port?

Thank you,

Nick
KC7OJX

3499. How do you weld solder ta

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: randal.olds@channel1.com
Message-ID: <40.7650.2425@channel1.com>
Source record: 104942

MITO>I need to weld solder tabs onto a bunch of nicad batteries.
MITO>Thought I'd ask before I risk electrocution.

MITO>I don't have access to a proper welder, so I'd like to "make do".

MITO>I thought I'd jig up a couple of sharp pointed nails and press them
MITO>against the strap up against the battery. I'll manually discharge a
MITO>big cap into the nails. I have no idea how much pressure or how much
MITO>energy will be required.

MITO>What's wrong with this picture? Anyone successfully welded tabs?
MITO>Details please.

MITO>On a related topic, I also have a bunch of nicads with tabs for
MITO>push-on connectors. I need to save some space by soldering to the
MITO>tabs. Of course, they won't solder (now I know why they were cheap),
MITO>probably stainless. Is there a flux for soldering stainless?

You can solder most any ferrous metal, I have soldered stainless and
cold rolled steel, both with good success. Stainless is a bit more
difficult, just get it clean, rough it up with a file or emery cloth and
use flux. If you do good with normal electronic soldering you should
have no problem doing this.
---
* SLMR 2.1 * Screwdriver antenna = big signal

3500. Re: Mac Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: dkelly@hiwaay.net
Message-ID: <dkelly-0206962022460001@news.hiwaay.net>
Source record: 104943

In article <4ot6i1$ag6@horn.wyoming.com>, Nick <simba@uwyo.edu> wrote:

> Anyone know where to find or have plans for a TNC/Packet modem for the
> Macintosh via the 8-pin serial port?

The same plans one might use to buid a "Baycom" modem should work. Then look to the standard ftp sites for "SoftKiss" to turn the Mac's serial port into a KISS TNC. A commercial package called Savant was once available but now NET/Mac is your best bet. Find Net/Mac at all the usual places. But you might start at ftp.ucsd.edu:/hamradio/packet/tcpip.

73,
--
David Kelly N4HHE, n4hhe@amsat.org, dkelly@hiwaay.net
==
To invent, you need a good imagination and a pile of junk.
- Thomas Edison

3501. Re: Physics of FM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Andy Barrow <abarrow@ccnet.com>
Message-ID: <31B19AB9.5350@ccnet.com>
Source record: 104944

> Can anyone tell me what the facts are about how far FM radio can reach
> in the United States? There must be federal regulations on the power of
> the stations and physical limitations due to either the curvature of the earth
> or just the distance which would make it impossible for a signal to
> stretch beyond a given distance.

That's pretty much what a lot of ham radio is all about. How far can
you push an radio signal, given the physics (and luck) of transmission.

Okay, so in a nutshell:

Typically, radio signals in the range of commercial FM radio (88-108MHz)
travel line of sight. "Line of sight" in radio, means something
different - it ain't necessarily a straight line. VHF and above tends
to travel in a curve equivalent to 4/3 of the earth's curvature. This
is because the density of the atmosphere changes as you go higher (I
have seen situations where signals actually curved the other way - such
as temperature inversions over the LA Basin). So it's simple - get your
transmitter, and receiver, high enough so that there is a path between
them equivalent to 4/3 of the earth's radius, and there will be path
between them.

So, keeping that in mind, what else effects VHF propogation? Tons of
things. There somewhat rare situations when VHF "skip" propogation is
possible due to changes in the upper atmosphere that prevent VHF signals
from passing out into space. In these situations the signal acts
somewhat like shortwave and propogation is well beyond line of sight.
Such changes can be brought about by meteor showers and such, and hams
often refer to the phenomena as "sporatic E". There is also an effect
called "tropo scatter", where a sufficently powerful transmitter, and a
sufficently sensitive receiver are directed to a common volume of air in
the troposphere. Folks are still arguing about why this works, but it
does.

Finally, over mountains, there are several effects, mainly do to the
refractive effects of waves when something get's stuck into the middle
of them. "Knife edge refraction" is an example, and can be demonstrated
in a pool of water by starting waves going, then putting a stick in the
wave front. The waves tend to "bend" around the obstruction.

Wow, propogation 101... Hope this helps.

Andy Barrow
WD6CWR
abarrow@ccnet.com

3502. digital filter design program needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Borlez Yves <berb@innet.be>
Message-ID: <31B0DFC4.593A@innet.be>
Source record: 105014

Hi, I'm currently trying to design digital IIR and FIR filters. Does anybody knows about a freeware which could help me.

Thanks in advance.

Yves BORLEZ

3503. Anyone converted a FT101e to solid state finals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: corrigad@adsnet.net
Message-ID: <4oqnvc$40u@golden.ncw.net>
Source record: 105015

Hello, I am interested in converting an FT101e over to solid state finals. I vaguely recall a kit for this. Has anyone done this modification? What type of succes was had?
-Dave KB7SVP

3504. Physics of FM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: hansen@ee.ucla.edu
Message-ID: <DsCow6.A9t@seas.ucla.edu>
Source record: 105016

I've heard a Mexican radio station up in Santa Barbara and I'm
quite sure they don't use a repeater. VHF radio waves can propagate
that distance (~250 miles) if the conditions are right.
The more power they have the less "right" the conditions have to be.
(Try VHF contesting sometime!) I'm sure that station in Tijuana has
plenty of kilowatts.

Chris Hansen, KQ6DW

3505. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4oquss$2oe@crash.microserve.net>
Source record: 105017

tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:

>Another possibility is to use a broad-spectrum noise generator,
>and then put it through some active bandpass filters.

The usefulness of this approach will depend on A) how abruptly
the noise energy must end at 10 & 30 Hz, and B) how accurately
the energy between 10 & 30 Hz must comply with the technical
definition of white noise.

It would be interesting to know more about the purpose of
generating this particular "signal".

73,
Jack WB3U

3506. Re: NEW! Radio Equipment Spec Sheets at Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4oqvi8$qv0@news.accessone.com>
Source record: 105018
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

In article <4oq8qq$png@news.accessone.com>, vbook@vbook.com says...
>
>In article <4ogtgs$a9a@crash.microserve.net>, jackl@pinetree.microserve.com
>says...
>>
>> mreiney@hevanet.com (miker in Tigard, OR.) wrote:
>>
>>>Neat web page. Lots of good stuff.
>>>But it takes forever to load... like 2 minutes when the web is
>>>loaded. Would it be possible to put all the neat graphics in a
>>>sub-page, or at least show the links before posting the graphics so
>>>we don't have to wait?
>>
>>If you're using Netscape, why not set it so it only loads graphics
>>on demand? That's easier than trying to convince Web page authors
>>to change their designs.
>>
>>73,
>>Jack WB3U
>

I had some time tonight. I redesigned the main web page for faster download times. At 21,600 bps, the main page downloaded in 15-20 seconds. The newsletters, propagation and start/welcome sections have been simplified and moved to their own pages accessible off the main page. Everything is still there - just moved to new locations.

The main page has (at the moment) 3 graphics: the Ham Radio Online title banner (highly compressed JPEG at about 8kbytes), a picture of the Yaesu FT-50R (JPEG compressed at about 3.7 kbpytes) and the background graphics (4 kbytes). The overall text is about 12 kbytes, plus maybe another misc 2 kbytes (EFF logo, WA logo). That works out to about 30 kbytes total for the main page which should download quickly at 14.4 kbps. As soon as the 12 kbytes of text (hronline.htm) is downloaded, your browser should allow you to scroll around, even if the graphics are still coming in. 12 kbytes ought to download in 10 to 20 seconds depending on your modem speed, server load and Internet traffic.

Please write us at vbook@vbook.com and let us know what you think of the new design.

Ed, Editor
Kim, copy editing and layout

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

3507. June edition Ham Radio Online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4or04n$qv0@news.accessone.com>
Source record: 105019
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

The June edition of Ham Radio Online is up on the web site. The number of articles should more than double from what is up there now. It takes a while to get the new articles edited so watch for new stories appearing over the next couple of weeks. Great product review on the Yaesu FT-50R. Lots of other goodies coming up soon.

Also, we redesigned the main page a bit for faster downloads.

73, Ed, KF7VY and Kim, N7VPL

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

3508. Re: homebrew GPS receiver ? on a balloon

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: drted@ix.netcom.com
Message-ID: <4or28v$jfa@dfw-ixnews9.ix.netcom.com>
Source record: 105020

In <31B0B538.5F54@ccnet.com> Andy Barrow <abarrow@ccnet.com> writes:
>
>HH357 wrote:
>>
>> GPS units also have a maximum altitude
>
>How can that be? They are frequenly used in aircraft, and the latest
>AMSAT Phase III will have one aboard.
>
>Andy - WD6CWR
The 60,000 ft. altitude limit is built in by the manufacturer. For
some strange reason, the US government didn't want Saddam Hussein
buying a couple of thousand off the shelf consumer GPS units, mounting
them in SCUD missiles and dropping them into Tel Aviv with 300 foot
accuracy. At 60,000 feet, the NMEA output zero's out the data.
However, some GPS modules can be bought without the altitude limit...
--
Bye... Ted..
Deep in the Heart of the Armpits of Houston, Texas...

3509. Re: Motorola Mic Pinout?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Glenn Everett <geveret@is.arco.com>
Message-ID: <DsCsH2.F7u@news.arco.com>
Source record: 105021

If you will E-mail me your box address, I will send you a copy of the entire instruction manual for what I think is the manual for your mic. I have one too. The plug pinout is the same. The model number you have given is for a Syntor Trunked radio if I read this right. Beware- Motorola manuals have to be read with great care and you will find that you have to trace from one place to another just to get from A to Z. Just take your time and you will figure it out. If you cannot reach me by E-mail, call me at 806-592-4984.

GJE

3510. Onto making a crockcroft-waltron multiplier....!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: MattZ@pond.com
Message-ID: <4ort9v$ftg_002@vf.pond.com>
Source record: 105022

I was wondering if anyone can suggest or tell me how to design a crockcroft waltron multiplier? I can dig up plenty of power trannies, moslty lower voltage ones, but I have a few 220 ones..What kinda diodes do you recommend and value's /ratings of caps... also it must be variable, suggestions to do that? (Simple pot would do I imagine) ... Just tring to get it to 1000v-5000v adjustable.. (Hey how high can you go with these?)

z

Warning---- These ideas or thoughts have been provided to you for entertainment uses only....The use of these idea's can be dangerous if used improperly! Always use proper safety precautions when handling these thoughts or ideas...The prior thoughts are fictional in nature...Any event that may happen after use of such ideas or thoughts is purely coincidental and the thoughts or ideas conveyed here by the author or anyone consciously or unconsciously working with the author can not be held responsible or irresponsible if said ideas are used or not used consciously or unconsciously..Due t o a dearth of original ideas this disclaimer is required
Use Caution when using any of the prior ideas!

--- "One Hundred Million Volts", he declared "Were Perfectly practicable"
Nikola Tesla 1899

--- "Why does my Cat Lick my Toes? or for that matter why does it lick my leather shoes?"
MattZ 1996

3511. Re: Mobile Noise Help - spark plu gaps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: hh357@aol.com
Message-ID: <4os6q5$6f@newsbf02.news.aol.com>
Source record: 105023

About a year ago, I was trying to remove the last vestiges of noise in my mobile scanner. (admittedly a crazy-making experience).
I reasoned that the high voltage, in the spark plug arc, would make a smaller "signal" if it was lower in voltage. Since I couldn't change the compression ratio of the engine, or the laws of physics, I re-gapped the plugs to a smaller size (.043 to .028 inches).
I know this also changes the freq. at the spark, but it did exactly what I wanted on the spark noise. It reduced that particular component of the noise by about 50%.
I would add that I was attempting to get rid of the noise in the lower, say 49 MHZ, ranges. I had had no problem in the higher freqs. with spark induced noise.
I did not make my car harder to start by "shadowing" the spark. I used an old racers trick of grinding back the side electrode at an angle, thus exposing more of the spark to the cylinder gases.
Champion actually makes a plug with that configuration.
I would have tried 'split-fire' plugs in this experiment, but they don't make them for my automobile. If anyone has tried them for this purpose, I would like to hear about it.

3512. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4osb0m$hgo@crash.microserve.net>
Source record: 105024

ESPI35E@prodigy.com (Rod Lane) wrote:

>A few years ago at Dayton I witnessed a guy who'd modified a
>standard microwave oven to do ATV. The bandpass was good enough
>for color and he'd modified a satellite receiver down-converter
>and receiver to receive the signal. It looked pretty good,
>especially since he was able to run about 250 watts cleanly
>modulated on a 600 watt microwave oven.
>
>It was kind of comical since he used the oven cavity as the
>location for the pair of 4CX250b tubes for the modulator. Just
>open the interlocked front door for access. And of course the
>mechanical timer acted as a time-out-timer.

I didn't realize hams were using high-level modulation for ATV.
This obviously produces double sideband, not vestigial sideband
as used by broadcasters. Is double sideband transmission typical
of Amateur TV transmissions?

73,
Jack WB3U

3513. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4osb2v$hgo@crash.microserve.net>
Source record: 105025

dgf@netcom.com (David Feldman) wrote:

>Is there any sort of rule-of-thumb on choosing the correct core
>size for a toroid core tube used as substitue for air core coil
>in a tube-output HF final/amplifier section? For example, at
>7 MHz, 700 volts/300 mA (maybe 100W output...) would a T200-2
>core be required, or could a smaller one be used, or would the
>T200-2 even be sufficient?

I haven't built one of these, but I'll offer a procedure that I
think is a reasonable way to roughly verify the core size.

At 700 volts/300 ma plate input, E/I equals 2,333. If we assume
that the conduction angle is 50 degrees, the operating impedance
will be 1,167 ohms. I'll round this to 1,200 ohms. For 100 watts
output, this represents an RMS voltage of 346 volts. The output
end of the coil will be operating at an impedance of 50 ohms,
which represents an RMS voltage of 71 volts. Thus, the coil will
see a differential voltage of 275 volts.

Now, let's say that we need 3 uH for this inductor. A T-200-2
core (u=10) with 16 turns will provide this value. Calculating
for flux density with the Amidon formula gives 41.4 gauss, which
is within their recommended maximum of 57 gauss at this frequency
(based on overheating). Using this same technique, the coil will
require approximately 0.8 uH on 10M (8 turns), which yields a flux
density of 20.7 gauss, well within the recommended maximum of
30 gauss at 28 MHz.

Again, I haven't used a core in this manner, so there may be other
factors involved in an exact determination that I'm not aware of.
However, I think this is sufficient to get into the ballpark in
selecting an appropriate core size.

>If you wanted to make a multi-band output network (with tapped
>coil), would you need to size the core for the highest operating
>frequency (assuming similar tube operating point for each frequency)?
>
>Any advice appreciated,

My advice is not to do it. With a single tapped coil, you end
up either shorting the turns, which severely reduces the Q and
increases loss (and which cannot be calculated with the Amidon
formula), or you will have open turns, which develop high
voltages and will probably arc.

The proper way to use toroids in this application is to design an individual inductor for each band, although you might get by using one core for every two bands (as long as switching doesn't short the unused turns). When it's all said and done though, you'll find that a single, air-core coil takes up less space, is more efficient, offers better harmonic suppression, and is much less costly.

73,
Jack WB3U

3514. SAVE THE 144 & 440 HAM BANDS!!!!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: David Mclean <dmclean@dfw.net>
Message-ID: <31B1B252.3B9D@dfw.net>
Source record: 105026
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.packet,rec.radio.amateur.policy,rec.radio.amateur.space

```
--
David Mclean
From The Land of The Hams
KC5NNV is Clear!

[Dfw-Hams]
http://www.dfw.net/~dmclean
```

*****ARRL NEW ENGLAND DIVISION SPECIAL BULLETIN 96-9A*****

QST to all Amateurs

May, 1996

Strafford, VT

NEW ENGLAND DIVISION DIRECTOR NEW ENGLAND DIVISION VICE DIRECTOR
Bill Burden WB1BRE Warren Rothberg WB1HBB
wb1bre@arrl.org wb1hbb@arrl.org

********** 2 Meter AND 70 cm BANDS THREATENED **********

THIS IS NO JOKE!! ARRL HAS LEARNED THAT IN PREPARATION FOR THE
WORLD RADIO CONFERENCE IN 1997, REPRESENTATIVES OF THE LOW-EARTH-ORBIT
(LEO) INDUSTRY PROPOSED A LIST OF CANDIDATE FREQUENCY BANDS FOR
REALLOCATION TO, AND EXCLUSIVE USE OF THE MOBILE SATELLITE SERVICE. THIS
LIST INCLUDES 144- 148 MHZ (THE CURRENT AMATEUR 2 M BAND) AND 420-450 MHZ (THE
CURRENT AMATEUR 70 CM BAND)!
IF THIS EFFORT WERE TO BE SUCCESSFUL, IT WOULD MEAN THE END OF
AMATEUR OPERATIONS ON THESE TWO MOST HEAVILY UTILIZED AMATEUR VHF/UHF
BANDS!

I have included the text of Dave Sumner's upcoming editorial for
July QST in this bulletin. ARRL, as the principal representative of
Amateur Radio in Washington, is actively pursuing this issue as this
bulletin is being written. Dave's call to action is serious!! We could lose these bands if
we do not take action now!!
Club presidents and newsletter editors: please make this
information available to your membership as soon as possible.

Follows the text of Dave Sumner's July QST editorial:

WRITE NOW!!!!

Get out a pen and paper, or boot up your computer. There's work to be done! Your help is needed to defend two meters and 70 cm. Yes, that's right -- the two most popular and crowded amateur VHF/UHF bands! But don't panic, and don't "go ballistic."
Here's what's happening, and what you can do about it.
The United States is preparing for the 1997 ITU World Radiocommunication Conference, WRC-97. In the past, the public has been able to participate in the preparations for such conferences by responding to FCC Notices of Inquiry. In March, the FCC announced a streamlining of its International Bureau's preparatory processes for WRCs. Under the new scheme, the NOIs have been eliminated in favor of increased emphasis on WRC Advisory Committees.
For WRC-97, a series of Informal Working Groups (IWGs) of the Advisory Committee has been created to address specific agenda items. The output of each IWG will go directly to a joint FCC-NTIA-Department of State Steering Committee of the Advisory Committee. There, draft proposals as received from the IWGs will be reviewed and forwarded to the FCC for possible release as preliminary U.S. proposals for public comment.
In announcing the streamlined WRC preparatory process, the FCC tried to reassure those who might be concerned about reduced opportunities for public participation: "Interested parties should note that input to the Advisory Committee may be sent at any time directly to the Chair of the WRC-97 Advisory Committee; the Chairs of the Advisory Committee's Informal Working Groups; Cecily C. Holiday, the FCC's federal officer of the WRC-97 Advisory Committee,on C. Ladson, the alternate federal officer."
Hold that thought while we shift gears to the substance of the issue.
One of the WRC-97 agenda items includes consideration of possible additional frequency allocations for the mobile- satellite service. So-called "little LEOs," low-earth orbit satellites below 1 GHz, already have allocations. Their proponents claim these are inadequate and are trying for more. The needs of little LEOs are being addressed in IWG-2A, chaired by Warren Richards of the Department of State. The ARRL technical relations staff participates in IWG-2A to represent Amateur Radio interests.
At the May 7 IWG-2A meeting, an industry representative proposed a list of "candidate bands" for little LEOs. The list includes a number of bands that would negatively impact existing services, and does not include others that would be technically
more feasible but to which strong objection from incumbents could be expected -- the point being
that some political, rather than purely technical, judgment already has influenced the list.
Incredibly, 144-148 and 420-450 MHz were included on the list! This is the first time in memory that another service has been proposed for

the two-meter amateur band. We must make sure it is also the last time. We do not need to explain to ARRL members the extensive use that is made of these bands by amateurs. The two bands provide the backbone of our local public service communications effort. Voice and data, mobile and fixed, even television -- the list of present amateur uses is a long one, and of future uses is even longer. Both are already used for satellite services and for moonbounce and extended-range terrestrial operations requiring extremely sensitive receivers and high levels of effective radiated power.

Apparently we did need to explain all this to the little LEO industry representatives, so we did just that -- both at the meeting and iup letter on May 15. We also explained that we had to regard the matter as extremely serious. No one with the slightest background in radiocommunication could possibly believe that a mobile- satellite service could be introduced into either band without disrupting existing and future amateur operations. Therefore, we said, if we did not receive assurance that they would be taken off the list of candidate bands by the deadline for this issue of QST, we would have no choice but to bring the matter to the attention of the entire membership.

The response we received was unsatisfactory. In effect, we were told the little LEO industry would consider our views but that until their spectrum needs are satisfied, all bands must remain under consideration.

So, this is a call to action. We must get across to the industry and government participants in IWG-2A that the 144- 148 MHz and 420-450 MHz bands cannot be considered as candidates for mobile-satellite services. We need to drive the point home so forcefully, with so many grassroots responses, that no one is ever tempted to try this again.

Which brings us back to that invitation for "interested parties" to send input "at any time." There's no time like the present! Here are the key addresses, including those of the mobile-satellite industry folks who seem to have started the ruckus:

Cecily C. Holiday, International Bureau, FCC, Washington, DC 20554; choliday@fcc.gov; FAX (202) 418-0748.
Warren G. Richards, Chair, IWG-2A, Department of State, CIP 2529, Washington, DC 20520; richardswg@ms6820wpoa.us-state.gov; FAX (202) 647-7407.
Tracey Weisler, FCC Rep., IWG-2A, International Bureau, FCC, Washington, DC 20554; tweisler@fcc.gov; FAX (202) 418-2824.
Mary Kay Williams, Final Analysis, Inc., 7500 Greenway Center, Ste. 1240, Greenbelt, MD 20770; FAX (301) 474-3228.
Leslie Taylor, LTA, 6800 Carlynn Court, Bethesda, MD 20817; ltaylor@lta.com; FAX (301) 229-3148.

Do comment. But be civil. Don't abuse people who are simply doing their jobs. We have to get across that casting covetous eyes on amateur bands is counterproductive, and contrary to the public interest. To accomplish this we need a lot of comments, including yours. But remember that the objective is to educate and persuade, not to intimidate. We don't need to. The facts are on our side.

To monitor the FCC's ongoing WRC-97 preparations, visit its WRC-97
home page at: http://www.fcc.gov/ib/wrc97/.
Write now. Right now! -- David Sumner, K1ZZ

Distribution:

To: INTERNET:ARRL-NEDIV-LIST@NETCOM.COM INTERNET:BARC-LIST@NETCOM.COM
INTERNET:EMA-ARRL@NETCOM.COM INTERNET:FIELDORG-L@NETCOM.COM
INTERNET:W1AW-LIST@NETCOM.COM

E-mail from: Don KA0JLF & Cris N0XZB, 29-May-1996

!^NavFont01F0007RGHHd77C611

3515. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: jcberry@edgenet.com
Message-ID: <jcberry-0206961258230001@newport9.pcix.com>
Source record: 105027
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

In article <4ol1ov$dkn@bignews.shef.ac.uk>, ELA95CDH@shef.ac.uk (ELA95CDH) wrote:

> In article <4oe309$nej@vista.hevanet.com>, mreiney@hevanet.com says...
> >
> >I need to weld solder tabs onto a bunch of nicad batteries.
> >Thought I'd ask before I risk electrocution.
> >

Are nicad battery terminals much different from regular alkaline battery terminals? To solder leads onto alkaline batteries I have had good luck with a small file.

First, file the area to be soldered so that it is shiny (oxides removed). Follow the first step with the second quickly, to prevent re-oxidation of the area. Second, heat the area with the soldering iron until solder will melt directly onto the contact rather than just the iron tip.

After applying a dab of solder to the area, you should be able to solder whatever you please to that spot. A higher powered soldering iron will make heating the contact go a bit faster, but it can be done with a cheapo 5watt iron. I hope this works as well for you as it has for me.

Good luck,

Jonathan Berry
jcberr19@nfi.com

3516. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-02 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960602095649.29610H-100000@spork.callamer.com>
Source record: 105028
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

There is really no great amount of danger spot welding tabs! They usually
are made of pure nickel material. I put two sharp pointed copper wires in
a soldering gun, place both on the tab in contact with the battery case
and pull the trigger for a short burst. The battery remains cool. W6HDO

On Tue, 28 May 1996, Kerry Miller wrote:

> mreiney@hevanet.com (miker in Tigard, OR.) wrote:
>
> >I need to weld solder tabs onto a bunch of nicad batteries.
> >Thought I'd ask before I risk electrocution.
>
> >I don't have access to a proper welder, so I'd like to "make do".
>
> >I thought I'd jig up a couple of sharp pointed nails and press them
> >against the strap up against the battery. I'll manually discharge a
> >big cap into the nails. I have no idea how much pressure or how much
> >energy will be required.
> Sounds dangerous to me! I had a similar situation several years ago
> and decided to try to find a low-temp way to solder the tabs on.
> Radio Shack had some liquid solder in a syringe that works at a pretty
> low temperature. I used it with a good hot gun (140w Weller) and so
> far they are still working.
>
> Be careful not to heat up the cells any more than you have to!
> 73,
> Kerry Miller
> kmiller@flash.net
>
>
>
>

3517. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <31B2801E.3B54@vertex.ucls.uchicago.edu>
Source record: 104879
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

> Hi Jack, Add stub matching to that pot. The theory of stub matching
> has been forgotten. Stubs need not be pieces of transmission line.
> Functionally, they can be a capacitor or an inductor. I use stub
> matching theory and one single variable capacitor across the
> ladder-line at the operating position to achieve a 50 ohm SWR
> of 1:1 on *all* HF frequencies with a 102 ft. dipole. It is
> the easiest, most efficient antenna matching technique that
> I know of. Why in the world has it been discarded? It works
> as well and usually better than an antenna tuner and costs a
> lot less.
>
> 73, Cecil, KG7BK (W6RCA soon), OOTC

Cecil, I'd love to know how exactly you did that (cap. value, wiring).
I am working on building an HF transmitter right now, and I have a
receiver; they share a 2.5m x 2.5m loop (square actually ;) mounted
vertically on my wall. I don't have a tuner right now, aside from a
knob on the receiver marked Antenna Tuning which is probably just a
variable cap also (but I find I spend most of my time with the knob
turned as far CW as it goes). Please post/e-mail/both. Thanks IA

73's de Isaac

3518. IC 706 only for VHF ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: ea4abb@linux.ea4abb.ampr.ORG
Message-ID: <Pine.LNX.3.91.960603103033.387B-100000@linux.ea4abb.ampr.org>
Source record: 104880

Hello everybody.

I have bought a IC 706 and in my country I only can use it in 144 Mhz
with my licence. I need to modify it to only have full coverage onn 144 Mhz.

Do you know the mods to turn off the HF bands on this transceiver ???

Any comments are welcome. 73s

-- Roberto

____
Email:ea4abb@ea4rct.clubs.etsit.upm.es | ampr: ea4abb@linux.ea4abb.ampr.org
fidonet: Roberto Munoz 2:341/64.10 | ax25: ea4abb@ea4een.eam.esp.eu
<A HREF="http://www.etsit.upm.es/~rclub">Paginas WEB del Radioclub EA4RCT</A>

3519. Frequency synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Isaac Kohn <ikohn@vertex.ucls.uchicago.edu>
Message-ID: <31B32431.E7D@vertex.ucls.uchicago.edu>
Source record: 104881
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital

Hi all,
I'm looking for a chip or way to design a system that will generate a sine wave at a programmable frequency. My problem is that I want to cover 160m-10m at least, preferably all the way up to 2m or 70cm. I assume that such a wideband chip does not exist, so I'm looking for ideas on how to build a system to do this. Cost must be as low as possible, and that limits me to relatively simple stuff. Also, my knowledge of radio+electronics in general is sketchy, not to mention my extremely little knowledge of digital stuff. TIA for any response!

73's de Isaac

(maybe a PLL with programmable multiplier and 1Mhz reference or something???)

3520. Re: Future postings of L.O.S.A ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: rstevew@armory.com
Message-ID: <4otv7j$a5i@news.scruz.net>
Source record: 104945
Cross-posted to:
comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew,rec.radio.amateur.misc

```
In article <4oje7k$9fk@ccnet2.ccnet.com>,
Bob Wilkins ~ n6fri <rwilkins@ccnet.com> wrote:
>Richard Steven Walz (rstevew@armory.com) wrote:
>
>: P.S. L.O.S.A. is a mail list for stamp application technical notes,
>: and it is considered quite kosher to post in this neighborhood of the
>: UseNet.
>
>While most folks use a damp sponge to apply stamps, it might be more
>kosher to just have a pointer to your ftp sites or learn the html code
>and put up a web page. Try to send your foul language to the hams to
>e-mail, or better yet put it in an audio file on your web server.
>
>In this neighborhood there are those who want to lick stamps...
>
>: -Steve
>: --
>: -Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
>: mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
>: and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
>: and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com
>
>--
> Bob Wilkins home n6fri@uhf.org
> Berkeley Hills, California work bob@cave.org
> CM87uv play n6fri@n0ary.#nocal.ca.usa.noam
----------------------------------------
You posted this piece of shit two days ago, asshole! Why repost it?
And the Newsgroup line above is YOURS, precisely as you posted it!
If you don't like shit on your group, don't order it delivered!!
I killed your cute little X-Orig-Newsgp line too!! You're just
trolling. Groups receiving this should pay attention if they don't
like what he gets back!
-Steve Walz
--
-Steve Walz rstevew@armory.com ftp://ftp.armory.com/pub/user/rstevew
mirrored: ftp://ieee.cas.uc.edu/pub/electronics/faqs/ftp.armory.com
and Europe: ftp://ftp.cised.unina.it/pub/electronics/ftp.armory.com
and Oz: ftp://ftp.peninsula.apana.org.au/pub/electronics/ftp.armory.com
```

3521. GP 300

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: "Mary N. Riordan" <m.riordan@SYLVANIA.SEV.ORG>
Message-ID: <4otjhc$aj@sylvania.sev.org>
Source record: 104946

I have a Motorola GP 300 and am interested in hearing from anybody with reprograming information.

3522. Re: Physics of FM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: robert@kd3bj.ampr.org
Message-ID: <robert.833770541@kd3bj.ampr.org>
Source record: 104947

Quite a few things can affect the range. I have seen low power stations with high mountains around them get over the mountain with edge effect. KBAY is most likely ducting down the coast. The commercial FM propagation can share some characteristics with VHF marine propagation, and here on the Atlantic coast, ducting is quite common. Out there in california, ducting is responsible for contacts from CA to HI on the amateur band between 144 and 148 MHz. The presence or absence of stations on the same or adjacent channels will also have an effect. Since FM exhibits "capture", the station you hear need only be 1 dB stronger than the one you won't hear because of this effect. I'm sure the real technical types can add to this list.

--
Robert Garland NX3S @ N3ACL.PA.USA.NOAM
Hilltown Township Bucks County robert@kd3bj.ampr.org
Pennsylvania USA Grid FN20ii
"Ham Radio is a calling"

3523. WE NEED YOUR INPUT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Survey Administration <74750.1341@CompuServe.COM>
Message-ID: <4otq14$3ni$57@mhade.production.compuserve.com>
Source record: 104948
Cross-posted to: rec.puzzles,rec.puzzles.crosswords,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.running

Please excuse this brief intrusion, but we are trying to locate any and all holders of academic degrees conferred within the last ten (10) years.

The Kitty Knight Corporation, Boston, MA, is currently searching for qualified individuals to participate in a ***PAID*** study focusing on post-secondary, graduate, and professional education in the United States.

Holders of ALL types of degrees in ALL fields of study are needed. We would like to hear from you as long as your degree was earned at an accredited institution in the United States.

After an initial screening, qualified participant will be asked to complete a questionaire of approx 150 questions. Everyone who completes the survey will receive a $100 stipend. Naturally, *ALL* information will be held in the strictest confidence.

To express interest, please send your name, mailing address, and photocopies of **ALL** degrees you have earned to: The Kitty Knight Corporation, Attn: Study 96-3H, Back Bay Annex, P O Box 546, Boston, MA 02117. (If not obvious from the degree, please indicate the field of study.)

Thank You Very Much!

3524. Re: Needed: FM stereo multiplex ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: robert@kd3bj.ampr.org
Message-ID: <robert.833770310@kd3bj.ampr.org>
Source record: 104949
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Once upon a time ... National Semiconductor had a chip for stereo
multiplex and SCA in their catalog. You might call the nearest office
and ask if such an thing is still available.

--
Robert Garland NX3S @ N3ACL.PA.USA.NOAM
Hilltown Township Bucks County robert@kd3bj.ampr.org
Pennsylvania USA Grid FN20ii
"Ham Radio is a calling"

3525. SG-9 IF board

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4otnnh$jnu@dfw-ixnews8.ix.netcom.com>
Source record: 104950

Hi group:

I have an SG-9 9MHz I.F board that I want to get into action, its a really nice board with lots of features, only problem is I dont have a print for it. I think I can get it going but if you have a copy of a print please E-Mail me. Ill send an SASE for it.

Regards,

Tim ka8ddz

3526. GE Porta*Mobil convert to 6?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4oto3d$nut@sjx-ixn2.ix.netcom.com>
Source record: 104951

I had the pleasure of picking up two GE Porta-Mobil rigs, you know, the ones that look like a skinny lunch box with the handle on top. Anyway they both work and are on 44.720, anyone know what needs to be done to get these rigs on 52.525? I know how to get the freq I want and can certainly retune the cans but are there component changes required? I planned on just putting in some new rocks (as opposed to building up a synthisizer) and using them for Simplex.
Any input is welcome.

Tim ka8ddz

P.S bought them both for $3.00!

3527. High performance homebrew receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: CORDESSES Roland <cordesse@opgc.univ-bpclermont.fr>
Message-ID: <31B2DD98.48E6@opgc.univ-bpclermont.fr>
Source record: 104952

Hi Rob

Enjoyed your message about high performance homebuild receiver.
I'm working on such a project since many months (years??).Here
are some comments and questions on the subject :

1.Preselector . What about insertion loss and selectivity of your
circuit (especially on the upper ham bands).
I merely build band pass filters centered on each ham band (present
status is 14 MHz only!!) so I'm interested in any ideas and comments
about good front end selectivity .

2. Front End . No comments .I'm using Makhinson ideas .

3. IF Filters and amplifiers . Your approach seems very smart but
what about Q degradation by the varactors and AGC stability problems
related to this structure .
Here I use home made ladder filters (12 poles for main and 4
poles for noise) I designed with the Hayward and Makhinson methods.
The band pass is around 2300Hz and shape factor in the order of 1.6
(6/80dB).I have also build a 1700Hz unit and designed a 400Hz one).
I agree with you that narrow filters build around common (and cheap)
crystals are associated with high insertion losses .
The present amplifiers are MC1350 chips but I recently ordered AD600
and AD603 in order to experiment the Carver and Analog Devices sche-
matics . I hope to improve the AGC behaviour through the use of the
"linear in dB" gain control characteristic .

4. Local oscillator . For the first tests I use a classical Colpits
VFO but I'm working on a DDS/PLL synthesizer (according to Rhode works).
The DDS build around an AD7008 controlled by a 80C552 microcontroller
is now operational:tuning is made by an HP optical coder and frequency
is displayed on an LCD panel .
The PLL part has to be build : I am interested in any comments or
advices you could made about the Rhode paper.

5. Product detector and Audio amp. The product detector is a classical
diode DBM . I made tests with the sample and hold technique proposed by
Rhode (QST Nov92) but the detector dynamic range improvement of this
circuit was not as high as expected . Any comments about this method
would be appreciated.
My audio amplifier is an ugly one and I suspect that great improvement
in A.F quality could be obtained !!!

This receiver forum is really fascinating !!!

73's de Roland / F2DC

3528. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4ou2gf$8gu@crash.microserve.net>
Source record: 104953

w8jitom@aol.com (W8JI Tom) wrote:
>jackl@pinetree.microserve.com (WB3U) writes:

>>If we assume that the conduction angle is 50 degrees, the
>>operating impedance will be 1,167 ohms.

>Do you mean 180 degree conduction angle instead of 50 degrees??

Yes, my mistake. I was thinking of 50%.

>>I'll round this to 1,200 ohms. For 100 watts
>>output, this represents an RMS voltage of 346 volts. The output
>>end of the coil will be operating at an impedance of 50 ohms,
>>which represents an RMS voltage of 71 volts. Thus, the coil will
>>see a differential voltage of 275 volts.

>Nada. There is a phase difference being negelected. The peak
>voltage across the coil is a complex issue that involves the
>actual operating parameters of the network. The phase difference
>across the input and output voltages is probably somewhere between
>90 and 180 degrees, and more likely at the 180 degree end.

I realize peak voltage may bear little resemblance to my
calculation of operating impedance. However, the method of
core selection that I described is based on overheating, not
saturation. Peak voltage shouldn't be a factor, only RMS.

Regarding phase shift, you're absolutely right. I considered
this beforehand, but made an error when I was thinking about the
effect. At 180 degrees phase shift, the actual voltage across
the two terminals would be the sum of the individual voltages,
not the difference. Therefore, relative to the example above,
the total voltage could be as high as 417 Vrms rather than the
275 Vrms I stated. I calculated flux density again using this
number, and it requires using the next larger core or a lower
permeability (the latter to allow increasing the number of
turns, which reduces flux density).

>You will also have an operating Q related problem. The current
>and voltage are no longer in phase, VAR power in the tank can be
>many times higher than the output power.

Once the pi network is resonated and tuned for a match to the
load, won't the power factor be unity at the plate of the tube,
as well as at the output of the network?

73,
Jack WB3U

3529. Re: !! Help !! - Calculating cascade (IP3) intercept points and intermod products levels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <31B2968E.A61@rcru.rl.ac.uk>
Source record: 104954

Steve Andrew wrote:
>
> Hi
> Can anybody tell me how I can calculate the overall input
> and output third order intercept points (IP3), as well as
> the intercept point for each stage, given several stages.
>
I can tell you how to work it out in terms of C/I. You can
then extrapolare to a new value of I3 for the complete system.
Often, one stage dominates.

Calculate the C/IP3 for each stage at the input level you
require. Then (making sure they are real numbers, not dB) add
together like you would for resistors in parallel.

i.e C/I= 1/(1/(C/I1) + 1/(C/I2) + ... 1/(C/In))

> I would also like to calculate the intermod product levels
> (IP3) for each stage.
>
You can't easily. You really need to measure it. As a rule of
thumb, possibly a bit pessimistic, add 10 dB to the 1dB gain compression
point for solid state PAs. For Valves it is different.

> When not stated, do manufacturer's IP3 figures usulay refer
> to input or output ?
>
Whatever gives the higher number!

Mike

3530. ? Triode Grid Current

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: guenter.koellner@oen.siemens.DE
Message-ID: <31B330EE@SmtpGate.Oen1.Oen.Siemens.De>
Source record: 104955

Hello all,

I finished a W6PO style amplifier for 144 MHz. It uses a russian GS35B tube. Most interesting is that I replaced the ceramic capacitors at the anode by a coaxial tube-in-tube construction at the anode resonator itself.

First test results are promising. At 6W drive and 2200V anode voltage I got 120W out and thats the expected 13dB gain. At 3500V anode voltage i got 6Win->180Wout and 20Win->500W out. I couldn't test more as i did not have more input power.

But there is a question that I want to ask here: The GS35B is rated 26W grid dissipation. But I can only measure grid current and grid voltage. How is the relationship? I can hardly believe that it is the standard P=U*I, because with 26W and 10V grid voltage that would result in 2.6A grid current.
Can anyone help me and clear my doubts? Additionally, what are the factors that influence the grid current at a triode most, is it coupling (thightener/looser), tuning (more or less tuning capacitance) or what else?

Thanks a lot for your help. If you need some details about my project, feel free to ask. If there are final results with higher anode voltage and higher drive I will keep you informed.

vy 73, Guenter, DL4MEA@DB0KCP.#BAY.DEU.EU (AX.25)
dl4mea@amsat.org (Internet)
http://www.scn.de/~koellner (WWW)

3531. 3CX5000A7 cooling/mounting.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jun3.095721.47325@ucl.ac.uk>
Source record: 104956

Has anyone used the Eimac 3CX5000A7 tube ? I want to know how to mount it and cool it. I have the data sheet, valve and chimney, but can't work it out.

It does not need any socket, so it is difficult to see how on earth it can be cooled if mounted on the grid flange as the data sheet says.

Any help appreciated.

Dave Kirkby G8WRB.
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3532. 3CX5000A7

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jun3.100143.43080@ucl.ac.uk>
Source record: 104957

Has anyone used the Eimac 3CX5000A7 tube ? I want to know how to mount it and cool it. I have the data sheet, valve and chimney, but can't work it out.

It does not need any socket, so it is difficult to see how on earth it can be cooled if mounted on the grid flange as the data sheet says.

Any help appreciated.

Keywords:

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3533. Single tube 4CX250 design wanted for 2 m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jun3.100610.17051@ucl.ac.uk>
Source record: 104958

Can anyone suggest a design for a *single* tube 4CX250/350 linear for 2 m that works well? I have about 15 designs for such amps, but dont want to try them all to find the best one! Any suggestions ?

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3534. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4ougla$od0@newsbf02.news.aol.com>
Source record: 104959

In article <4ot7gs$403@allinux2.alliance.net>, Jay Radcliffe
<n8rhv19@mail.alliance.net> writes:

>
>Hello,
>I am interested in building a tube amplifer for my HF rig (Kenwood
TS-940).
>What is either a good
>book to read to help me understand how to build one and/or a good project
>already designed to help
>me accomplish this task. I'm not in a rush to have this amp, it's more of
>something to keep busy.
>HiHi...Thanks in advance.
>
>

Hi Jay,

I'd call Eimac an get a copy of "Care and Feeding of Power Grid Tubes" and
read it first.

There has been a lot of good information in Ham-type books, and a lot of
pure BS and wild fantasy stuff. Sorting out the mixture of information and
mis-information is difficult.

In general, the stuff in the OLD ARRL handbooks was very accurate, say
from the 1990 period BACK. Some of the later Handbook stuff has a bit of
mis-information and a few safety related errors.

In general, the Bill Orr amplifier stuff is good. The only error is in his
"super cathode driven" circuits. Avoid the super cathode driven stuff,
it's trouble.

Beware some of the tetrode stuff published lately, it seems geared more
towards selling tubes than giving solid design help. As a matter of fact,
I'd recommend avoiding tetrodes entirely unless you are very experienced
at designing and operating an amp.

73 Tom

3535. Re: !! Help !! - Calculating cascade (IP3) intercept points and intermod products levels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <31B2E5D3.6940@crpl.cedar-rapids.lib.ia.us>
Source record: 104960
Cross-posted to: aus.electronics,aus.radio.amateur.misc,rec.radio.amateur.homebrew,sci.electronics.design,sci.electronics.misc

Steve Andrew wrote:
>
> Hi
> Can anybody tell me how I can calculate the overall input
> and output third order intercept points (IP3), as well as
> the intercept point for each stage, given several stages.
>
> I would also like to calculate the intermod product levels
> (IP3) for each stage.

See Chapter 17 of the 1995/1996 ARRL Handbook

Bill

3536. Re: Single tube 4CX250 design wanted for 2 m

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Lennart Nilsson <ln@hagagymnasiet.norrkoping.se>
Message-ID: <4oupdt$gi4@simba.lejonet.se>
Source record: 104961

The circuit described in RSGB Handbook and ARRL Handbook with a series tuned anode line (coil and small variable capacitor) works well for me and gives 300 W out with 500 W input. It is easy to build if you can find a suitable capacitor with 5 pF midrange.

If I build another one I'd copy the design of German "Dressler" PA which uses a quarter wave stripline. I've seen a photo in an advertisement and the mechanical layout is clever and compact.
73 de Lennart,SM5DFF

3537. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4out35$b99@news.calweb.com>
Source record: 104962

jackl@pinetree.microserve.com (WB3U) wrote:
> ESPI35E@prodigy.com (Rod Lane) wrote:
>
>>A few years ago at Dayton I witnessed a guy who'd modified a
>>standard microwave oven to do ATV. The bandpass was good enough
>>for color and he'd modified a satellite receiver down-converter
>>and receiver to receive the signal. It looked pretty good,
>>especially since he was able to run about 250 watts cleanly
>>modulated on a 600 watt microwave oven.
>>
>
snip

>
>I didn't realize hams were using high-level modulation for ATV.
>This obviously produces double sideband, not vestigial sideband
>as used by broadcasters. Is double sideband transmission typical
>of Amateur TV transmissions?
>
>73,
>Jack WB3U

Yes double sideband is used for amateur TV but only on the microwave
bands where there is room. FM is also used and is also wideband.

My TV transmitter on 1253 MHz is AM. In my case I built a cathode
modulated amplifier and followed that with another amplifier.

I have considered building a vestigial sideband filter but it
is a project that I haven't yet alocated time.

Bill K7NOM.

3538. WTB: TRF radios engineering literature

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Vlad <dvorkin@pcs.mot.com>
Message-ID: <4ouoka$f4p@trotsky.cig.mot.com>
Source record: 104963
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.radio.shortwave

Looking for TRF radios engineering literature (old & recent).
Please e-mail to Vlad at: dvorkin@pcs.mot.com

3539. Direct 'Digital' Tx/Rx?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Rick Miller <rick@DigalogSys.com>
Message-ID: <Pine.LNX.3.91.960603104213.28587A-100000@net.digalogsys.com>
Source record: 104964

Hi!

I've been pla^H^H^Hworking with PIC microcontrollers lately, and they're a lot of fun... especially since their clock speeds go up as high as 33 MHz on some parts. You probably see where I'm going.

I wrote code on a 20 MHz part to flip a square wave at 625 kHz and modulate that at about 1.2 kHz (antenna < 3 m and power < 100 mW). So my project could broadcast its error codes in Morse onto a nearby AM radio. Fun stuff!

Actually, the square wave (50% duty cycle) generated such awful harmonics that it propagated farther (3 m instead of 0.5 m) in the FM band. <sigh>

Anyway, I'm wondering if anyone has used microcontrollers to do radio *directly* like this, and I'd be especially interested in whether anyone's done a *receiver* this way, maybe with a comparator wired as a differentiator for digital input? I know it's not "digital radio"... it's closer to an untuned spark-gap really.

I'm having a blast aliasing my 100 mW all over the spectrum and wondered if anyone else has tried anything like it.

Rick Miller
(Dang! I *knew* I should've taken that digital filters course...)

3540. Re: Homebrew GPS RCVR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: EFBRYA@acxiom.COM
Message-ID: <1b30e900@acxiom.com>
Source record: 104965

This is a Mime message, which your current mail reader
may not understand. Parts of the message will appear as
text. To process the remainder, you will need to use a Mime
compatible mail reader. Contact your vendor for details.

--IMA.Boundary.552818338
Content-Type: text/basic; name="note.txt"
Content-Transfer-Encoding: 7bit
Content-Description: MS-DOS text file

Ham-Homebrew Digest Sat, 1 Jun 96 Volume 96 : Issue 236

Today's Topics:
AM Modulation Scheme ??
ARRL synch. detector
desperately seeking for 3SK124
Help! 70MHz Amplifier??? (2 msgs)
help with attenuator
Here is how to solder Nicads without tabs
homebrew GPS receiver ? on a balloon
How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs? (2
msgs)
Just enough to hang my. . .antenna
Mobile Noise Help
Mod for FT1000
need help with wire dipole
Physics of FM
Relays-fast?
Saturation in toroid cores (2 msgs)
Sizing toroid core for use in tube pi-net?

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from ftp.UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 1 Jun 1996 03:37:06 -0400
From: k1el@aol.com (K1EL)
Subject: AM Modulation Scheme ??

I have a military AM modulation transformer that I would like to use in a low power AM transmitter I am building (25 watts). The question is: The transformer has a single center tapped coil and is intended for push pull modulation. One leg of the coil has a much higher current rating than the other (70 ma vs 150ma) this is the end that would be connected to the plate of the final amplifier stage of the transmitter. Does anybody have any schematics for this type of modulation. I suppose it is similar to a Heising configuration except that the modulation drive is double-ended rather than single.

Regards Steve K1EL

Date: Thu, 30 May 1996 17:44:55 GMT
From: hugo@infobahnos.com (Hugues Caron)
Subject: ARRL synch. detector

Jake Brodsky <frussle@erols.com> wrote:

Thanks, Jake, for your reply and comments and tanks also to the many others that brought their help, some directly through e-mail. The support of one of them I have in mind, has been realy FANTASTIC.

I have started the construction though I'm still waiting for some of the parts.

>I built one with some freinds. We put it in an FRG-100 and it worked
>pretty well after we tweaked some of the parts a bit.

Could you expand a bit on what you mean by 'tweaked'.

> I don't think the original article had the part values all that close. But it doesn't
>matter. Just get an assortment of parts that are reasonably close.

I've ordered the 1% resistors as well as the C0G caps (NPO!!; Should have taken a closer look to the components chapter of the h'book before posting this question. (: < . Thanks for the previous poster reply in any case)

>If your varactor capacitance ranges are wide enough, you can make up
>for pretty much any other drift you might encounter.

Are you aware if NTE613 tuning diodes (~22pf at 4 V) could serve as direct replacement to BB809 or BB409 (~ 33pf at 2 V) suggested by the author. I have the MV2109 and MV2105 (thanks to my FANTASTIC contact) to be paralleled in replacement of any of the BBs, but would prefer 2 parts instead of 4 due to space constrains I have to deal with.

I'm pretty shure these parts are availlable in Montreal.

Again thanks to all,

H. Caron

>Jake Brodsky, AB3A

>"Beware of the massive impossible!"

Date: 31 May 1996 20:53:09 GMT
From: Andrea Ghilardi <andrea@cln.it>
Subject: desperately seeking for 3SK124

Hello here is Andrea IK5QLO,
I am in need of the "old" GaAsFet 3SK124 as replacement
for some Aged but still good MMT 2m preamplifiers and
converters. I will be happy to buy it !
Here in Italy they seems to be disapperead !

73 de Andrea IK5QLO

Email: andrea@cln.it

Packet Radio : IK5QLO@IW5BFZ.ITOS.ITA.EU

Date: Fri, 31 May 96 04:24:55 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Help! 70MHz Amplifier???

Post / CC by Mail

Matt Bohn <bohn@unm.edu> wrote:

>I am currently working on an impedance matching transformer to
>convert from 50 ohms to the high 5000 ohms of the tank circuit
>that the pockel cell is in. Actually that isn't going to well
>either. The toroid gets rather hot when I apply 30 watts of
>70MHz and doesn't seem to multiply the voltage. The toroid
>appears to be the correct type: it is green/white, a T130-12.

That's much too high a ratio for a single transformer.
A circuit like this really needs a tuned tank for the
impedance transformation. Your concept of modifying a
6 Meter amplifier is probably workable, although at this
point, you might want to just replace the transformer
with the appropriate tank components.

73 & GL,
Jack WB3U

Date: 30 May 1996 12:03:21 GMT
From: Francis Lyn <lynf@candu.aecl.ca>
Subject: Help! 70MHz Amplifier???

Build your own PA stage. Motorola makes RF MOSFETS that will do the job,
and provide lots of application notes for high power broad band VHF

amplifiers using MOSFETS. With 30 W drive, a push-pull output stage is probably all you need.

The hard part in designing RF power amplifiers is to get the input and output impedance matching networks right. Since you want to drive a 5 k load, you should design the output matching network for a Zl = 5k instead of the usual 50 ohm. No reason to use a step up transformer, that is what the matching network is supposed to do (along with harmonic suppression, which may not matter in your application).

Call on some of your friend in Electrical Engineering; they should be glad to assist. Good Luck!

Francis - VE3TDL

Date: Fri, 24 May 1996 10:30:40 GMT
From: davek@medphys.ucl.ac.uk (Dave Kirkby)
Subject: help with attenuator

In article 1ggYkAAbyloxEwpt@golfmike.demon.co.uk, Scott Macmillan <scott@golfmike.demon.co.uk> writes:
>
> Hi all,
> A friend of mine has just bought a Yaesu FT480. It has an output power
> of 10 Watts and he wants to use it to drive a transverter to operate on
> 6 meters.
> The problem is that the max drive for the transverter is 5 Watts. He
> will need to put a 3 dB attenuator in the output of the radio to drop
> the power to 5 W.
>
> I have found info on what values of resistors to use to make the
> attenuator, but what I would like to know is would EACH resistor need to
> be able to dissipate 5 Watts of power?
>
> Any help/info to scott@demon.co.uk
>
>
> --
> Best 73's
> DE Scott - GM7OMU
> Glasgow, IO75tv.
No. assume:

```
-------------R2---------
| |
10W R1 R3 5 W out.
| |
------------------------
```

Do this:
1) Find R1, R2 and R3 (R1=R3)

2) Calculate the voltage that gives 10W across 50 Ohm. This is V=sqrt(PR)=22.4V.
So there's 22.4V across R1, so R1 dissipates 22.4^2/R1
3) Do the same for R3, but it will have V=sqrt(5*50)=15.8V across it.
4) R2 dissipates 5-dissipation in R1 - dissipation in R3.

Dave Kirkby G8WRB.
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

Date: Fri, 31 May 1996 09:40:55 -0700 (PDT)
From: kferguson@aquilagroup.com (Kevin AstirCS "1U" KO0B)
Subject: Here is how to solder Nicads without tabs

You might also check with some of the RC car types.

The racers think the tabs have to much resistance, so they always
solder up thier own packs using flat braid & matched cells.

Of course they abuse the cells (rapid charge & discharge) , so if life
in "normal" service were reduced by 50% they probably wouldn't notice
it.

-ko0b

Date: 30 May 1996 04:50:44 -0400
From: hh357@aol.com (HH357)
Subject: homebrew GPS receiver ? on a balloon

GPS units also have a maximum altitude (so it cant be used in a missle).
I used to send up 5-6 ft. weather ballons for the forest service, and as I
recall, we got up to 20,000 ft in a half hour or so. So your commercial
GPS unit would be of no use after 30 min at most.
GPS's also have a maximum acceleration limit, if I'm not mistaken, but I
doubt if any balloon will ever reach that limit.
Good luck
H Higgins

Date: 1 Jun 1996 14:25:03 GMT
From: Roland Burgan <rburgan@up.net>
Subject: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

You can probrably silver solder onto the tabs.

Date: Wed, 29 May 1996 14:19:54 -0700
From: bigr@teleport.com (bigr)
Subject: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

In article <4oe309$nej@vista.hevanet.com>, mreiney@hevanet.com (miker in Tigard, OR.) wrote:

I need to weld solder tabs onto a bunch of nicad batteries.
Thought I'd ask before I risk electrocution.

I don't have access to a proper welder, so I'd like to "make do".

I thought I'd jig up a couple of sharp pointed nails and press them against the strap up against the battery. I'll manually discharge a big cap into the nails. I have no idea how much pressure or how much energy will be required.

What's wrong with this picture? Anyone successfully welded tabs?
Details please.

On a related topic, I also have a bunch of nicads with tabs for push-on connectors. I need to save some space by soldering to the tabs. Of course, they won't solder (now I know why they were cheap), probably stainless. Is there a flux for soldering stainless?

Thanks, miker

I used to work for a company in Beaverton called Micropower. They made battery packs for all kinds of stuff. We would use spot welders with nickle strips for connecting the terminals. Superglue and accellerator was used to glue the cells together. Sometimes shrink-wrap was put around each cell before gluing.
Superglue bonds well to shrink wrap.

If the batteries had copper surfaces (or if you can sand off the plating and get copper), you could try using one of those chemical tin plate kits that they use for plating pc boards. Make sure the battery is discharged.

However, I believe that these batteries have nickel plating. Because nickel is more electropositive than tin the plating kits probably wont work. I believe that they work on the principal that copper is much more electronegative than tin. Uck- I hated this part of college chemistry.

There are also some very low temperature solders. Maybe the solder paste used for surface mount devices would work.

Rob, N3FT

Date: 31 May 1996 16:13:21 GMT
From: BlandRanch@worldnet.att.net (Chuck Bland)
Subject: Just enough to hang my. . .antenna

In article <4ol72c$662@dfw-ixnews9.ix.netcom.com>, anthonys@ix.netcom.co
says...
>
>In <4okud8$9st@mtinsc01-mgt.ops.worldnet.att.net> Chuck Bland
><BlandRanch@worldnet.att.net> writes:
>>
>>Greetings,
>>
>>I'm in the process of hanging a dipole antenna, and I will be using
>ropes
>>at the ends to suspend it.
>>
>>What type of rope should I use? I live in Sacramento, CA. Hot, dry
>>summers, rainy, windy winters. No snow.
>>
>
> Polypropylene would be best as an insulator but make sure it
>is BLACK for UV resistance (common stuff is yellow). But, why not
>use a couple of cheap glass insulators?
>
> Braided Nylon is NG because it deterioriates pretty fast.
>Dacron is much better and stretches less.
>
> -=Tony=- W6ANV San Francisco
>

Well, there are insulators on the end of the antenna, but I'll need some
rope to tie to the other end of the insulators to suspend the antenna in
the air.

Chuck - n6dbt

Date: 1 Jun 1996 03:32:02 GMT
From: cmoore@vegas.ch.intel.com (Cecil A. Moore~)
Subject: Mobile Noise Help

In article <4oic8d$gcc@newsroom.hitc.com>,
Chris Smith, NR3O <csmith1@ccgate.hac.com> wrote:

>I get a rushing hash (like white noise) only when the engine is under load.
>It is enough to wipe-out weaker stations, but not those louder ones.
>I throw in the clutch and it goes away, even if I then race the engine
>(leads me to think it's not ignition, but some sender unit--perhaps
>fuel injection electronics radiate only under load?).

Hi Chris, I have begun to suspect the ABS system is causing a
similiar problem in my S10. Does anybody know if the clutch
position is sensed by the ABS?

73, Cecil, KG7BK, OOTC (not speaking for my employer)

Date: Fri, 31 May 1996 23:28:03 GMT
From: K.S.@ihnp4.ucsd.edu
Subject: Mod for FT1000

Who know a mod for receive below 100 kHz ?

Thanks... K.S.

Date: 31 May 1996 14:17:04 -0700
From: Cecil Moore <kg7bk@primenet.com>
Subject: need help with wire dipole

WB3U <jackl@pinetree.microserve.com> wrote:

: The unqualified use of baluns is what has set the Amateur community
: back thirty years. Overlooking the advantages and versatility of
: link coupling on the basis of its age is akin to replacing the
: family sedan with a hovercraft. ;)

Hi Jack, Add stub matching to that pot. The theory of stub matching
has been forgotten. Stubs need not be pieces of transmission line.
Functionally, they can be a capacitor or an inductor. I use stub
matching theory and one single variable capacitor across the
ladder-line at the operating position to achieve a 50 ohm SWR
of 1:1 on *all* HF frequencies with a 102 ft. dipole. It is
the easiest, most efficient antenna matching technique that
I know of. Why in the world has it been discarded? It works
as well and usually better than an antenna tuner and costs a
lot less.

73, Cecil, KG7BK (W6RCA soon), OOTC

Date: Sat, 1 Jun 1996 04:16:34 GMT
From: allanc@netcom.com (Allan C.)
Subject: Physics of FM

Hello everything.

(knowledge of the geography or mileage of northern and/or southern
California will be helpful in answering this post. Sorry I don't have better
numbers)

I don't know if this is a reasonable place to post this or not. But because
I can't think of where else to post, I'll give this a shot.

This post is inspired by the contrast between my various observations
and my father's theories. Also my various observations contrast with each
other a little.

Can anyone tell me what the facts are about how far FM radio can reach
in the United States? There must be federal regulations on the power of
the stations and physical limitations due to either the curvature of the earth

or just the distance which would make it impossible for a signal to
stretch beyond a given distance. I am in San Diego and am able to
pick up a Los Angeles station (K-Earth) load and clear, although it may
break up every now and then. If you live in this area or are familiar
with Southern California, you know what distnace that is. (Half way Oceanside
to TJ, I'm in LaJolla). I don't know, I guess it's between 100 and 150 miles
from here to LA

There's another station (91x) whose broadcast tower is on the hills of Tijuana
and supposedly doesn't abide by the FCC rules because it's in Mexico..
So it has a super-strong signal, and my brother said that he was actually able
to hear them once or twice in Santa Barbara (250 miles?).
My father says that's doubeful due to physical limitations.

There's a third station (102.1) which is located in Oceanside, border between
San Diego and Orange counties. That's probably only 100 miles from L.A.
Maybe less, depending on how you count Los Angeles. Would you expect
to be able to hear that station well into LA?
I have no problem (or little problem) getting them here in LaJolla
(30 miles?) but in Hillcrest (another 15 -- 45 or 50 miles?) the signal
started to break up.

Finally, there's one more station (100.3 I think) which is KBAY I think
in the San Francisco bay area, which I have been able to hear all the way
down 101 to Gilroy or even due East of Monterey.
I am not sure how far this is -- maybe 130-150 miles?

My father has assured me that there MUST be a repeated somewhere in
order for that signal to reach so far.

So what's the deal? Is there a magic number of miles (1) that an
average-to-strong signal (2) can travel and be picked up by a reasonably
good receiver? (3)
What about a station which doesn't pay attention to FCC limits? (4)

Please let me know if this should be re-posted elsewhere or if I should
look in a reference at a library.

Thanks

-Allan
allan@carhart.com

(1) assuming average weather conditions --probably more sunny days than cloudy
ones in North and South California
(2) assuming the radio station is within the FCC limits but at the high end
(3) boom box with analog tuner and/or high-end walkman with digital tuner
and/or car radio with digital tuner
(4) I would assume that 91x (91.1) doesn't exceed federal limitations
by too much due to either financial limitations or Mexicon Government limits.
--

"The most difficult thing in the world is to know how to do a thing and

to watch someone else do it wrong without comment."
-- Theodore H. White

Date: 31 May 1996 12:51:12 -0400
From: w8jitom@aol.com (W8JI Tom)
Subject: Relays-fast?

Does anyone know a source of fast relays suitable for HF amplifiers?
73 Tom

Date: Fri, 31 May 96 14:24:42 GMT
From: jackl@pinetree.microserve.com (WB3U)
Subject: Saturation in toroid cores

wk@frc.niwa.cri.nz (Wilbert Knol) wrote:

>Thanks for the clarification Kevin. It sounds like the proper way
>to monitor flux change in a core is to monitor the voltage across a
>winding, as according to Faraday, this voltage must be proportional
>to dB/dt, regardless of saturation.
>
>In case of saturation, B no longer follows H. So, to check for
>saturation in a toroid inductor in a output network of a transmitter,
>I would measure the current into the winding with a current probe
>hooked up to an oscilloscope, and display it against the voltage
>across the winding.

Another method is to measure the distortion products as the signal
is increased and note the point at which they begin to rise.

73,
Jack WB3U

Date: Sat, 1 Jun 1996 10:47:32 -0700
From: Clifford Buttschardt <cbuttsch@slonet.org>
Subject: Saturation in toroid cores

Yes and in addition, use a scope to monitor the voltage. ANY distortion
whatever of the signal is a clue to saturation! CliffButtschardt
W6HDO/K7RR

On Fri, 31 May 1996, Wilbert Knol wrote:

> atkes@imap1.asu.edu wrote:
>
> >V_peak is the voltage measured across the N turns. If the N turns are
> >left open, they don't contribute to the the magnetic field since no
> >current flows. You then measure the voltage induced by the magnetic
> >field from whatever other turns there are.

> <snip>
> >You can calculate the flux from the currents in the windings too,
>
> Thanks for the clarification Kevin. It sounds like the proper way to
> monitor flux change in a core is to monitor the voltage across a
> winding, as according to Faraday, this voltage must be proportional to
> dB/dt, regardless of saturation.
>
> In case of saturation, B no longer follows H. So, to check for
> saturation in a toroid inductor in a output network of a transmitter,
> I would measure the current into the winding with a current probe
> hooked up to an oscilloscope, and display it against the voltage
> across the winding.
>
> If v(t) is proportional to di(t)/dt at all times, the core is free of
> saturation. Saturation would show up where i(t) gets large, resulting
> in a collaps of v(t). Does that sound reasonable?
>
> Wilbert, ZL2BSJ.
>
>
>
>
>

Date: Fri, 31 May 1996 18:48:45 GMT
From: dgf@netcom.com (David Feldman)
Subject: Sizing toroid core for use in tube pi-net?

Is there any sort of rule-of-thumb on choosing the correct core size for a toroid core tube used as substitue for air core coil in a tube-output HF final/amplifier section? For example, at 7 MHz, 700 volts/300 mA (maybe 100W output...) would a T200-2 core be required, or could a smaller one be used, or would the T200-2 even be sufficient? If you wanted to make a multi-band output network (with tapped coil), would you need to size the core for the highest operating frequency (assuming similar tube operating point for each frequency)?

Any advice appreciated,

73 Dave WB0GAZ dgf@netcom.com

End of Ham-Homebrew Digest V96 #236
****
--IMA.Boundary.552818338
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Description: cc:Mail note part

The commercial receivers may be limited in altitude and velocity. The actual law limits these only if altitude AND velocity are both exceeded. Some manufacturers limit if either is exceeded others requre both to be exceeded before stopping output. Motorola Encore limits only if both are exceeded.
--IMA.Boundary.552818338--

3541. Re: How do you make a 7 ns. delay line @ 146 Mhz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4ov3gs$ik7@hpcvsnz.cv.hp.com>
Source record: 104966

Michael E. Colley (mike@sneezy.UUCP) wrote:
: Somebody here might know how to do this. I want to make about a
: 7ns delay line inside an inch square and a quarter inch high on a
: PCB. Frequency bandwidth is 140-150 Mhz and any Z will work. I'm
: thinking of the distributed L-C type.

: Is there any information about how to do this?

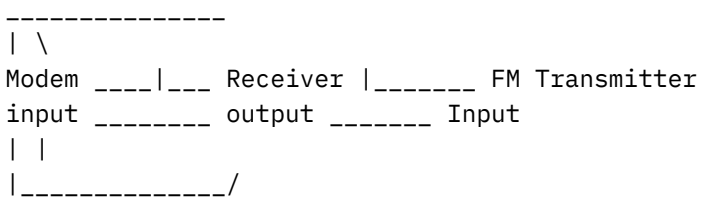
Since you only want 360 degrees of phase shift over a narrow bandwidth, this should be pretty easy. You could build a four-pole (actually four pole pairs) bandpass filter and make it a "maximally linear phase" (equivalently "maximally flat delay") type. This should do the trick for you. You can also do a lumped-LC delay line, which is essentially a low-pass filter; the bandwidth would be much greater, but you don't indicate you need that much bandwidth. If you would like to try the maximally flat delay filter and don't have design info, I'm sure someone here could post a design.

--
Cheers,
Tom
tomb@lsid.hp.com

3542. A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Billy@don't.bother.sending
Message-ID: <Billy.28.0011F704@don't.bother.sending>
Source record: 104967

In order to beat the bills of BT, I want to connect two computers about 1/2 mile from each other.... I was thinking of using some sort of radio link, but I ain't sure if it will work. I was thinking of something like the below for both computers :



The two computers would be transmitting on different frequencies, but would some sort of feedback occur?

If anyone could help me or point in the direction of a circuit which will do this

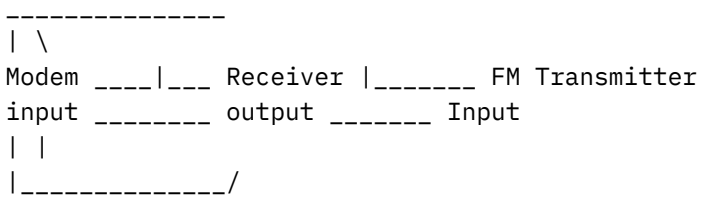
Rgrds

Peter Stevenson

3543. Radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Billy@don't.bother.sending
Message-ID: <Billy.29.0011F9AA@don't.bother.sending>
Source record: 104968

In order to beat the bills of BT, I want to connect two computers about 1/2 mile from each other.... I was thinking of using some sort of radio link, but I ain't sure if it will work. I was thinking of something like the below for both computers :



The two computers would be transmitting on different frequencies, but would some sort of feedback occur?

If anyone could help me or point in the direction of a circuit which will do this

Rgrds

Peter Stevenson

3544. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4ov62j$k2l@shellx.best.com>
Source record: 104969

In article <4osb0m$hgo@crash.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
> ESPI35E@prodigy.com (Rod Lane) wrote:
>
>>A few years ago at Dayton I witnessed a guy who'd modified a
>>standard microwave oven to do ATV. The bandpass was good enough
>>for color and he'd modified a satellite receiver down-converter
>>and receiver to receive the signal. It looked pretty good,
>>especially since he was able to run about 250 watts cleanly
>>modulated on a 600 watt microwave oven.
>>
>>It was kind of comical since he used the oven cavity as the
>>location for the pair of 4CX250b tubes for the modulator. Just
>>open the interlocked front door for access. And of course the
>>mechanical timer acted as a time-out-timer.
>
>I didn't realize hams were using high-level modulation for ATV.
>This obviously produces double sideband, not vestigial sideband
>as used by broadcasters. Is double sideband transmission typical
>of Amateur TV transmissions?
>

Yes, amateur AM-ATV is typically double sideband. This has been
kind of a sore point for ATV on the lower UHF bands since most
ATV'ers don't use VSB filters.

Steve Muther WF6R

3545. Re: Anyone converted a FT101e to solid state finals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Chris Broadbent <cfb@bga.com>
Message-ID: <31B30C80.194A@bga.com>
Source record: 104970

Dave wrote:
>
> Hello, I am interested in converting an FT101e over to solid state
> finals. I vaguely recall a kit for this. Has anyone done this
> modification? What type of succes was had?
> -Dave KB7SVP

Why would you want to do this? If I understand things correctly, tubes are much more robust (especially at being overdriven, handling mismatched antennae, EMP from lightning, etc). By comparison, semiconductors are quite fragile.

I would guess the disadvantages of tubes is that they run hot and availability can be a problem. However, the Russians currently make a number of good output tubes (equivalent to many Western types). Is yours among those they make?

Genuinely curious,

Chris.

3546. Re: How do you make a 7 ns. delay line @ 146 Mhz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ov9u1$3c@nadine.teleport.com>
Source record: 104971

In article <L6BwoD1w165w@uudell.us.dell.com!sneezy>,
mike@sneezy.UUCP (Michael E. Colley) wrote:
>Somebody here might know how to do this. I want to make about a
>7ns delay line inside an inch square and a quarter inch high on a
>PCB. Frequency bandwidth is 140-150 Mhz and any Z will work. I'm
>thinking of the distributed L-C type.
>
>Is there any information about how to do this?
>. . .

Some years ago I had need for various delays and found quite a variety of commercial distributed LC units available. You might check a distributor's catalog. Intended for digital use, the tradeoffs were size/delay/risetime, so smaller ones would result in more attenuation at a fixed frequency. If you want to try a lumped LC line, the best treatment of the topic I've seen is in Millman & Taub, "Pulse, Digital, and Switching Waveforms", Appendix C.

Roy Lewallen, W7EL

3547. Re: Physics of FM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960603134820.22123F-100000@spork.callamer.com>
Source record: 104972

Lets not forget that the path between the Mexican boarder and Santa Barbara is nearly over water-=--at least in the fog bank that appears rather often. This always enhanses VHF signals regardless of the power. Regarding the query on KBAI, they indeed do have a translator in the Central California area which makes them appear to cover San Francisco to the King City area. Cliff Buttschardt W6HDO/K7RR

On Sun, 2 Jun 1996, Christopher J Hansen wrote:

> I've heard a Mexican radio station up in Santa Barbara and I'm
> quite sure they don't use a repeater. VHF radio waves can propagate
> that distance (~250 miles) if the conditions are right.
> The more power they have the less "right" the conditions have to be.
> (Try VHF contesting sometime!) I'm sure that station in Tijuana has
> plenty of kilowatts.
>
> Chris Hansen, KQ6DW
>
>
>

3548. Re: 70MHz Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: don.phelps@infoway.com
Message-ID: <9606031451333406@infoway.com>
Source record: 104973

Hello Matt,

When I was a Biophysicist, building the 3rd FFT NMR spectrometer,
I needed several hundred watts pulsed 60 MHz.
I found a used 6 meter 500 watt linear and modified it.
I would recommend the same to you.

That would give you safety margin for duty cycle and derating with
increased frequency.

I don't see why you don't just resonate the pockel cell capacitance
with a air coil that you then feed with a tap or link coil fed with
50 ohm coax with type N connectors, standard measurement impedance,
matching impedance etc.
You could buy a 6 meter transmatch and insert that into your 50 ohm line.
That way you separate your amplifier project from
your pockel cell tank circuit project.

Bo> I am a physics graduate student and I need 200 watts at 70MHz.

Bo> I need to apply 600 volts at 70MHz.
Bo> Matt Bohn
Bo> http://www.unm.edu/~bohn/fs.html
Bo> Graduate Student
Bo> Optical Sciences Program
Bo> University of New Mexico
Bo> 800 Yale SE
Bo> Albuquerque, NM
Bo> 87131

Don N6MCE

... Don.Phelps@InfoWay.com; 1:125/104; BBS (415)459-4503 10PM-7AM PDT
___ Blue Wave/386 v2.30 [NR]

3549. sb200 mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: fitzgera@ykm.COM
Message-ID: <01BB5163.DBCD5620@ron.avfloral.com>
Source record: 104974

Anyody know of a published/distributed mod to convert the
SB-200 to single 3cx800 tube.

Thanks in advance.
Ron, KO6BY
e-mail fitzgera@ykm.com

3550. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: Bigdog <bigdog@mail.vividnet.com>
Message-ID: <31B37488.7C38@mail.vividnet.com>
Source record: 104975
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Steve Kennedy wrote:
>
> Nick Button <nick@plains.demon.co.uk> wrote:
>
> >Hi,
>
> >Does anybody know of any circuits for add-on synchronous detectors for
> >AM broadcast reception ?
>
> >I keep reading how wonderful they are supposed to work but I'd like to
> >put one together and try it myself before I shell out cash on buying a
> >new RX...
>
> > +--------------------------------------+
> > | Nick Button, Nottingham U.K. |
> > | email:- nick@plains.demon.co.uk |
> > | ham radio:- G4IRX @ GB7NOT.#23.GBR.EU |
> > | fax:- +44-115-956-1489 |
> > +--------------------------------------+
>
>]
>
> There is an individual named Steve Johnston who sells a sync detector
> kit that can be used with any radio that has a 455 kHz IF, he can be
> contacted at:
>
> SBJohnston@aol.com
>
> I don't know anything about the kit, other than the info looks good
> and I know of several people who have purchased it and are currently
> constructing one.
>
> Steve
> WB7PSDI have a Sony 7600G receiver with synchronous am reception. Love it.
Been in the SWL game for 20 years and I love this new technology. Darn
near eliminates all the fading. Picks out the weak ones and locks on.
Beautiful....

3551. soldering battery tabs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: sw1gak@polaris.mindport.NET
Message-ID: <Pine.SUN.3.91.960603194413.24187B-100000@polaris>
Source record: 104976

Go to a welding supply shop or to a REAL hardware store and get some
"DUZ ALL" flux.
Works gud.

3552. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p09dd$cm3@newsbf02.news.aol.com>
Source record: 104977

In article <4ou2gf$8gu@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>Once the pi network is resonated and tuned for a match to the
>load, won't the power factor be unity at the plate of the tube,
>as well as at the output of the network?

Not in the middle of the network.

3553. Re: 3CX5000A7

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p0b8p$dn7@newsbf02.news.aol.com>
Source record: 104978

In article <1996Jun3.095721.47325@ucl.ac.uk>, davek@medphys.ucl.ac.uk (Dave Kirkby) writes:

>
>Has anyone used the Eimac 3CX5000A7 tube ? I want to know how to mount it and
>
>cool it. I have the data sheet, valve and chimney, but can't work it out.
>
>It does not need any socket, so it is difficult to see how on earth it can be
>cooled if mounted on the grid flange as the data sheet says.
>
>Any help appreciated.
>
>Dave Kirkby G8WRB.
>Dept of Medical Physics,
>University College Lo

Hi Dave,

I've build several amplifiers using that tube. First, the 3CX5000 is a bit cathode emission starved. It makes a great 5000 to 7000 watt out amp, but quickly runs out of steam.

I much prefer the 3CPX5000A7, even for linear SSB and CW service.

I make a plate that matches the grid flange pattern, and machine wide slots in the plate outside the area of the grid flange with a 1/2 inch milling bit. This allows air to pass, and the grid flange to be grounded. It looks a bit like a slotted car wheel when done. The 4CX5000 chimney fits fine.

With a 3CPX5000A7 at 7800 volts anode tension, the 3CPX delivers over 10000 watts with 200 wattts of drive. In short duty service I have run up to 25,000 watts out with excellent linearity, but the drive requirement is over 1000 watts.

Treatment of the filament, to avoid hum, reqires a bit of attention. It's that darn cathode connection that is a problem. The tube is VERY stable, and requires NO parasitic suppression if the layout is at all reasonable.

73 Tom

3554. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: prografx@teleport.com
Message-ID: <4ovbra$18d@nadine.teleport.com>
Source record: 104882
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Nick Button <nick@plains.demon.co.uk> wrote:

>Hi,

>Does anybody know of any circuits for add-on synchronous detectors for
>AM broadcast reception ?

>I keep reading how wonderful they are supposed to work but I'd like to
>put one together and try it myself before I shell out cash on buying a
>new RX...

> +--------------------------------------+
> | Nick Button, Nottingham U.K. |
> | email:- nick@plains.demon.co.uk |
> | ham radio:- G4IRX @ GB7NOT.#23.GBR.EU |
> | fax:- +44-115-956-1489 |
> +--------------------------------------+

]

There is an individual named Steve Johnston who sells a sync detector
kit that can be used with any radio that has a 455 kHz IF, he can be
contacted at:

SBJohnston@aol.com

I don't know anything about the kit, other than the info looks good
and I know of several people who have purchased it and are currently
constructing one.

Steve
WB7PSD

3555. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.261.0009DC45@TRL.OZ.AU>
Source record: 104883

article <4ot7gs$403@allinux2.alliance.net> Jay Radcliffe
<n8rhv19@mail.alliance.net> writes:>From: Jay Radcliffe
<n8rhv19@mail.alliance.net>>Subject: What is the best way to start to build a
Tube Amp?>Date: 2 Jun 1996 23:18:52 GMT>Hello,>I am interested in building a
tube amplifer for my HF rig (Kenwood TS-940). What>is either a good >book to
read to help me understand how to build one and/or a good project>already
designed to help >me accomplish this task.
>Jay Radcliffe >Amatuer Radio Station N8RHV

Jay, see if you can obtain a copy of "Radio Handbook" edited by Bill Orr. In
the17th edition for example, are complete plans for building the "Utility" 2
kW amp, using 4-100A or 3-1000Z or 3-400Z or 4-400A or 813 or 4CX250B or
4CX300A or 811 tube(s), with details for whatever tube(s) you choose. In any
event, find a copy of any edition of this handbook, they all have excellent
details for HF and VHF power amplifiers (I suspect Bill's special subject,
next to antennas).

Another goodie is "Care and Feeding of Power Grid Tubes" published by Eimac.

73, Drew, VK3XU.

3556. Re: Needed: FM stereo multiplex ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: bosch@mcs.com
Message-ID: <4p05cg$hah@Nntp1.mcs.net>
Source record: 104884
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

In <robert.833770310@kd3bj.ampr.org>, robert@kd3bj.ampr.org (Robert E. Garland) writes:
>
>Once upon a time ... National Semiconductor had a chip for stereo
>multiplex and SCA in their catalog. You might call the nearest office
>and ask if such an thing is still available.
>

There still is...it's the LM1800 (still around after 15 years). If you have a
WWW browser available, you can download the data sheets from National
Semiconductor's part database (http://www.natsemi.com or http://www.ns.com
your choice). You need Adobe's Acrobat Reader in order to see the specs,
though....

Andrew
bosch@mcs.com

3557. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: ESPI35E@prodigy.com
Message-ID: <4p07pv$1dmm@usenetz1.news.prodigy.com>
Source record: 104885

>>A few years ago at Dayton I witnessed a guy who'd modified a
>>standard microwave oven to do ATV. The bandpass was good enough
>>for color and he'd modified a satellite receiver down-converter
>>and receiver to receive the signal. It looked pretty good,
>>especially since he was able to run about 250 watts cleanly
>>modulated on a 600 watt microwave oven.
>

>I didn't realize hams were using high-level modulation for ATV.
>This obviously produces double sideband, not vestigial sideband
>as used by broadcasters. Is double sideband transmission typical
>of Amateur TV transmissions?
>
>73,
>Jack WB3U

We're talking FM video here. Although there is some AM component,
actually more than a bit, we're interested in the FM modulation here at
2.4 GHz.

3558. Re: ? Triode Grid Current

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p0e1o$ero@newsbf02.news.aol.com>
Source record: 104886

In article <31B330EE@SmtpGate.Oen1.Oen.Siemens.De>,
guenter.koellner@oen.siemens.DE (Koellner, Guenter) writes:

>But I can only measure grid current and grid voltage. How is
>the relationship? I can hardly believe that it is the standard P=U*I,
>because with 26W and 10V grid voltage that would result in 2.6A grid
>current.
>Can anyone help me and clear my doubts? Additionally, what are the
factors
>that influence the grid current at a triode most, is it coupling
>(thightener/looser), tuning (more or less tuning capacitance) or what
else?
>
>

Hi Guenter,

The grid dissipation primarily relates to the average RMS grid to cathode voltage and the average RMS grid current.

There is a secondary effect caused by dielectric heating and some other lower order effects that you can usually neglect in the type of service you are using.

You only need to read the grid current from the meter and multiply it by the average RMS grid to cathode RF voltage while the grid is conducting to get a reasonable dissipation approximation. You can estimate this from the constant current charateristic curves of the tube if you have them.

73 Tom

3559. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: tgm@netcom.com
Message-ID: <tgmDsGKv3.Cn1@netcom.com>
Source record: 104887
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Nick Button (nick@plains.demon.co.uk) wrote:
: Does anybody know of any circuits for add-on synchronous detectors for
: AM broadcast reception ?

A synchronous detector is basically a switch that is synchronized with a carrier. The signal to be detected is fed into the switch which is turned on during carrier peaks, and off at other times. The trick is to avoid false triggering caused by noise. Therefore, a PLL is used to regenerate a pure carrier from the original and thus remove the noise. This pure carrier is used to drive the switch. The switch can be a double balanced mixer, or even something like a CMOS 4066.

The main engineering issue is to account for the phase offset from the output of the PLL. Many PLL designs will synch with a carrier but with a constant phase shift, typically 90 degrees. The trick is to subtract the phase shift before driving the switch.

The cost to build a synchronous detector should be less than 5 dollars.

Thomas -- KI4N
tgm@netcom.com

3560. Re: Ultimate Cordless Phone

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: lottsim@aol.com
Message-ID: <4p0pe0$k2c@newsbf02.news.aol.com>
Source record: 104888

Check out the web site:

http://www.senao.com

OR search, using Altavista, for "long range cordless phone"

Quite a bit that you can find (30 miles+_)

Alex Rampell

3561. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: s722413@kub.nl
Message-ID: <4p0v6t$qs5@mailnews.kub.nl>
Source record: 104889

Billy the kid (Billy@don't.bother.sending) wrote:
* In order to beat the bills of BT, I want to connect two computers about
* 1/2 mile from each other.... I was thinking of using some sort of radio
* link, but I ain't sure if it will work. I was thinking of something like
* the below for both computers :

I think what you are looking for is packet radio. But I suggest that you configure your newsreader first to reflect your proper email address so ppl can reply to join instead of posting to the newsgroup.

Regards,
-Kees (PE1RHP)

--
Kees Leune Email: C.J.Leune@KUB.NL
Student of Information Management and Technology Tilburg University
Linux, the choice of a GNU generation! The Netherlands

WWW: http://pi0132.kub.nl:2080/people/kees HAM callsign: PE1RHP

3562. Cooling of power tubes - theoretical/practical problem.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jun4.112117.35717@ucl.ac.uk>
Source record: 104890

Does anyone claim to understand the requirements for cooling air flow of
power tubes ? In particular, how does one calculate the volume flow
rate required with inlet air temperatures above those on the data sheet ?

Assume a valve requires X cfm at 25 deg C inlet air. How much does it
require at 35 deg C or 50 deg C inlet air temp? According to publications from both
Eimac (Care and feeding of power grid tubes) and Burle (application note
on cooling, cant recall exact reference), it is increased by a factor
that accounts for the lower density of air as its temp is increased.
So to keep the same *mass* of air, the flow rate must be increased.

However, when one finds a data from Eimac on one of their tubes for
higher inlet air temps, it never seems to fit the fiddle factors
they state. The flow rates required at high input temps seem much
higher than the factors given would have you belive.

At first I found this odd, but after thinking about it, it became
obvious that two effects both require more air, so considering only
the density loss is not sufficient. These effects are:

1) The loss of density, given by a factor:

F1=(273+T)/(273+25) where T = inlet temp in deg C.

AND

2) The fact that as the inlet air is hotter, the difference in temp
between the air and the valve is less, so less heat is transfered.

I assumed the air flow would scale by another factor:

F2=(273+250-T)/(273+250-25),

where T=250 is the max tube temp. However, if the air flow requirements
at 25 deg C are scaled by a factor F1*F2, it still does not fit the data given
on data sheets.

If you are followed this and have an ideas, please let me know.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3563. Re: Anyone got a service manual for President Lincoln??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: rtw@fuwutai.att.com
Message-ID: <4p19ks$jv@nntpa.cb.att.com>
Source record: 104891
Cross-posted to: rec.radio.amateur.equipment,rec.radio.swap,rec.radio.amateur.homebrew

In article <31AC5EAF.71AF@ee.port.ac.uk>, finskase@ee.port.ac.uk says...
>
>As the subject tells, I am looking for a service manual for President
>Lincoln.
>If you have one, please mail me. I would be interrested of a copy.
>
>Erik
>--
>Erik Finskas M1AAJ & OH2LAK
>Email Finskase@ee.port.ac.uk
> Lakki@clinet.fi
>University of Portsmouth, UK
>Department of Electric and Electronic Engineering

Even if you get a copy of the manual, parts are going to be a real problem!

Rob WB8WQA

3564. Need data about AMPEREX DX362 tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: pavel.reberc@guest.arnes.si
Message-ID: <4p1a86$n04@cmir.arnes.si>
Source record: 104892

Hello,
Can anyone help me to find some data about AMPEREX DX362 tube. I have a 2m linear amp using this tube (naigai) but no documentation... The case of the tube looks identical to 4cx250 family, but my attempt to use 4CX250 tube finished loud and flashing.....
I still have one tube DX361, but i decided not to do the same experiment again, until i find out if it can be used as replacement for DX362...

Paul, s57ra

mni tnx for any info.
pse EM to pavel.reberc@guest.arnes.si

3565. Re: 3CX5000A7

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <31b422c6.1070389@news.santafe.edu>
Source record: 104893

w8jitom@aol.com (W8JI Tom) wrote:

>With a 3CPX5000A7 at 7800 volts anode tension, the 3CPX delivers over
>10000 watts with 200 wattts of drive. In short duty service I have run up
>to 25,000 watts out with excellent linearity, but the drive requirement is
>over 1000 watts.

I used a 3CPX5000A7 to make a 2 MHz pulsed amplifier that put out 50
kW peak. I used power MOSFETs to switch the cathode bias at 2 MHz.
TTL in - 50 kW out!

de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com/jpaw/

3566. WANTED: Panel Meter for Heath SWR Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: mvi@ix.netcom.com
Message-ID: <4p1f7u$icf@dfw-ixnews6.ix.netcom.com>
Source record: 104894

An on-air acquantance has a Heathkit HM-2102 SWR meter with a sticky meter movement. He has asked me to post a request to possibly locate a source for a replacement panel meter.

As an alternative, he would like to hear from anyone that may have a manual for the HM-2102 and could provide the value for the meter so that he may be able to replace it with an aftermarket part. Of course, he would prefer a Heath replacement.

Any help that you can provide will be appreciated,

73,

John, KB2YJH

3567. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: cmoore@vegas.ch.intel.com
Message-ID: <4p0h7n$1lih@chnews.ch.intel.com>
Source record: 104895
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <31B2801E.3B54@vertex.ucls.uchicago.edu>,
Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:

>Cecil, I'd love to know how exactly you did that (cap. value, wiring).

Hi Isaac, The thing that makes it all possible is a Ladder-Line Length Selector (no, I don't sell them). Using digital techniques, it is possible to use 'N' relays to obtain 2^N variable feedline lengths in increments of 'N'. I've found one foot increments to be about right. So with 5 relays, one can get 0-31 ft in increments of one foot. Varying the length of the ladder-line is the most effective matching technique I know. Using that technique, you can bring the current maximum point to the capacitor which will result in a purely resistive impedance of 50 ohms, 75 ohms, 200 ohms, 300 ohms, or 450 ohms (take your choice) all within 0.1 WL of the current maximum. You can use *any* balun you have available. You can find the current maximum with a $15 Ladder-Lizard from TechnoLogic Concepts.

I can't post my whole application note here. It is available from TechnoLogic Concepts, TLCdhconsult@delphi.com I don't get a penny from the publishing, I just want to spread the word.

Note the implications: Ladder-line is less lossy and less expensive than coax. Using ladder-line allows for a low-loss all-band HF antenna except for the balun/tuner problem.

But it is easy and advisable to achieve a match on the ladder-line side of the balun. It can be done with a single variable capacitor. You don't need a commercial antenna tuner at all!

If I were an HF antenna tuner manufacturer, I would start designing a Z0-matched relay switching network cuz that's all that is needed besides a $10 variable capacitor to beat the socks off the presently commercially available configurations.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

3568. Re: !! Help !! - Calculating cascade (IP3) intercept points and intermod products levels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: randolph@asic.enet.dec.com
Message-ID: <4p1h86$c4m@mrnews.mro.dec.com>
Source record: 104896

In article <31B2968E.A61@rcru.rl.ac.uk>, Mike Willis <mjw@rcru.rl.ac.uk> writes...
>> I would also like to calculate the intermod product levels
>> (IP3) for each stage.
>You can't easily. You really need to measure it. As a rule of
>thumb, possibly a bit pessimistic, add 10 dB to the 1dB gain compression
>point for solid state PAs. For Valves it is different.

W7ZOI and W1FB give the following rule of thumb for bipolar transistor amplifiers in "Solid State Design":

IP3 = 20 log (Ic in mA)

They mention this an approximation, so don't go too crazy using this for designing. Consider it optimistic and you'll probably come out ok. They also mention that the 1 dB compression point will come out around 15 dB below the predicted IP3, similar to the above.

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@est.enet.dec.com
==========

3569. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p1lfl$icf@crash.microserve.net>
Source record: 104897

w8jitom@aol.com (W8JI Tom) wrote:
>jackl@pinetree.microserve.com (WB3U) writes:

>>Once the pi network is resonated and tuned for a match to the
>>load, won't the power factor be unity at the plate of the tube,
>>as well as at the output of the network?

>Not in the middle of the network.

Tom, do you mean in the middle of the inductor? If so, I
don't see how this affects the applicability of the Amidon
flux density formula. Phase shift between voltage and current
will occur within the inductor no matter how it's used.

73,
Jack WB3U

3570. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p1lil$icf@crash.microserve.net>
Source record: 104898

ESPI35E@prodigy.com (Rod Lane) wrote:

>We're talking FM video here. Although there is some AM component,
>actually more than a bit, we're interested in the FM modulation
>here at 2.4 GHz.

This thread has raised two issues that I don't understand.

First, AM modulated NTSC (VSB) video is most easily generated through the use of a low-level IF output modulator. Such a modulator usually contains a visual SAW filter at 45.75 MHz that is responsible for comverting the DSB visual signal to VSB. Why aren't hams using this approach? It would certainly be less expensive to build a VSB IF modulator than to use a pair of 4CX250B's in a high-level modulator at the final. It's also a more efficient use of power and spectrum.

Second, why are hams using FM video? Aside from the huge amount of bandwidth it requires, it's the mode that's least compatible with commonly-available reception equipment, including NTSC TV receivers.

On a related topic, do most ATV transmitters upconvert and amplify the signal in a combined visual/aural format? Haven't hams made the switch to separate upconversion/amplifier chains for the visual and aural carriers? This technique greatly reduces intermod and allows much greater visual carrier output than combined amplification.

73,
Jack WB3U

3571. List Of Stamp Applications [960604]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: cj@hth.com
Message-ID: <31b45ff8.0@news.buller.se>
Source record: 104899
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
_____________________________________________________ _____
_____________________________________________________// L.O.S.A //_____

-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-
List Of Stamp Applications Date: 960604
-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-

Contents

_____________________________________________

1.0 What is BASIC Stamp ?
1.1 What is L.O.S.A all about ?
1.2 How can I contribute to this list ?
1.3 Where could I find L.O.S.A ?
1.4 List of contributions.
1.5 Credits and other things.

_____________________________________________

1.0 What is BASIC Stamp ?
-------------------------

This is being written for people who have no idea of what a BASIC
Stamp is...

BASIC Stamps are small reprogrammable single board computers (SBC)
that run BASIC programs and are made by Parallax, Inc. in US. At
first glance, they may seem fairly minimal - and in fact, they are.
But with software that fully utilizes all available hardware, the
Stamps give you powerful features - without the cost of hardware.

Their low cost and simplicity make the Stamps perfect for many
prototyping and control applications. It's suitable for electronics
hobbyists as well as electronics professionals in many different
areas.

Typical application areas for BASIC Stamp's are...

- General electronics
- Home automation
- Robotics
- Mini PLC
- Education
- Prototyping
- HAM related applications
- Special effects in films
- Industri control
```

- Geological instruments
- Computer peripherals
- Scale model hobbyists
- Model train hobbyists

As an talent engineer and technical writer expressed it...

- BASIC Stamp is the 555 of the 90's !

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remember it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share that's even better but it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------
Title :
Author: Date:
E-mail: (optional)
-------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
```

Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

If you don't have access to Internet you could send an SASE to the
address given below and I will return you a 3.5" DOS-disk with the
latest version in ASCII-format.

High Tech Horizon
Attn: L.O.S.A
Asbogatan 29 C
S-262 51 Angelholm
SWEDEN

1.4 List of contributions

> = Indicates a new or updated application since last time.

001 Robo-Cat
002 Logic Rudder
003 Interfacing MAX186 8 channel 12bit A/D
004 Scrolling LED Sign
005 Tone Decoder
006 Pager
># 007 HexWalker Mobile Robot

008 Robo Bug
009 EXPBOT Robot controlled by Stamp
010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer
016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader
020 Telephone Card Reader
021 DTMF Decoder
022 Ion chamber radiation monitor
023 Barn Monitor
024 Dallas one-wire interface
025 Sculpture control
026 Commercial clothes dryer controler
027 Morse Code Keyer
028 Traffic Light Controller
029 Automotive Lamp Control
>
>
>

==========

Title : Robo-Cat [# 001]

==========

Date : 950807
Author: Gustavson Guy W.
E-mail: GWGUSTAVSO@mpg.norstan.com

Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : http://www.winternet.com/~bigfoot/cat.html

Description :

My cat, Kesha, was recently diagnosed with Heptic Lipodosis. Or "Fatty Liver", basicly what this means is that for some reason he stoped eating and his liver started converting body to useable sugars. The fat deposists biuld up in the liver and cause severe liver damage. Because the liver isn't working well the cat feels crappy and wants to eat even less. The treatment for this disease is to run a tube down down the cats nose into his stomach, or a PEG tube through the abomine wall into the stomach and feed the cat a liquid diet this way.

I love my cat, but I can't be there every three hours to feed him through the tube for a month. Something about work and deadlines and such. So I went to a local supplus house and got a tiny motor driven pump, a case, some switches, a micro switch, ect...

The micro switch is mounted such that the switch trips for every rotation of the pump shaft. The stamp turns on the pump for on a single rotation at intervels programable from the controll switches on top. An alarm buzzer and LED flash if the pump fails to run for any reason. The unit is programable for 9 differents deleviery rates.

Now he gets a slow continuious feeding and he seems to tolerate this better than the 100ml feeding every three hours.

==========
Title : Logic Rudder [# 002]
==========
Date : 950812
Author: Christer Johansson
E-mail: cj@hth.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : http://www.hth.com/filelibrary/BS1-IC/

Description :

Many of the new and very realistic flight sims available today needs rudder to let you get full control. This one uses a digital pot from Xicor (X9104) and 10 other components. Connects to a standard IBM-PC game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right and to indicate when rudders move there is a red LED that lights up when you press the micro switches and to indicate center there is a green LED. If you press the both micro swithes the rudder will automaticly return to center position.

There is a trim pot to set the desired step rate from slow to very fast and the Xicor pot has 99 steps wich gives a fair resolution.

==========
Title : Interfacing MAX186 8 channel 12bit A/D [# 003]
==========
Date : 950925
Author: Helmut Fligge
E-mail: h.fligge@asco.nev.sub.de

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A

Description :

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via RS232 2400bps the stamp is asked to measure channel numbern. After conversion the result will be returned to the host computer as an ascii string (0 .. 4096). Conversion rate is about 4 measures per second.

==========
Title : Scrolling LED Sign [# 004]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the prototyping area of a Basic Stamp rev D. A scrolling alphanumeric message moves one pixel at a time, just like real scrolling LED signs, except this one only displays one full letter or portion of two letters at a time as the message moves by.

==========
Title : Tone Decoder [# 005]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Listens for telephone touchtones, displays phone numbers on LCD screen and echos them out RS-232 port. Circuitry fits in prototyping area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

==========
Title : Pager [# 006]
==========

Date : 950928
Author: Don McKenzie
E-mail: donmck@labyrinth.net.au

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : http://www.labyrinth.net.au/~donmck

Description :

This program for the Basic Stamp is used to monitor 4 hardware signals. If a change takes place, (after testing for a false trigger) then a cheap 2400 baud MODEM is used to dial into a Telecom Alpha-Numeric pager. It leaves a message which consists of a 2 digit I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110" means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a short period, then hanging up, the Stamp will dial your Pager and report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user wishes to add enchancements such as "Multiple Ring-In's" say within a minute, for a command selection, there is plenty of program space left.

==========
Title : HexWalker Mobile Robot [# 007]
==========
Date : 960511
Author: Tom Thornton
E-mail: mandtsys@ix.netcom.com

Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A

Description :

HexWalker is a hexapod robot that exhibits obstacle avoidance behavior. It is controlled by BASIC Stamp, BS1-IC, or Stamp chipset (PIC16C65 + EEPROM). Driven by three servos it is the simplest machine architecture that can walk forward and backward, and turn left or right. A kit is commercially available contact author for details.

==========
Title : Robo Bug [# 008]

```
==========================================================================
Date : 951003
Author: David Novick
E-mail: dkn@cimar.me.ufl.edu
--------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn
--------------------------------------------------------------------------
Description :

Using two stamps, a robot with six legs (2 degrees of freedom each)
was able to walk and turn (at this stage, not very gracefully).

==========================================================================
Title : EXPBOT Robot controlled by Stamp [# 009]
==========================================================================
Date : 951009
Author: Marvin Green
E-mail: marvin@agora.rdrop.com
--------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it
--------------------------------------------------------------------------
Description :

This program allows a cool robot to move abound a room in search of
light. Like a moth. Simple program changes can dramatically change
the robots behavior.

==========================================================================
Title : Andrews Ever Evolving Lego Robot [# 010]
==========================================================================
Date : 951119
Author: Andrew H. Hochheimer
E-mail: softarts@ciaccess.com
--------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: YES
Filename : N/A
URL : http://www.wincom.net/~softarts
--------------------------------------------------------------------------
Description :

Currently the robot can only navigate to the brightest light source
in a room. It's current operation mode has four major steps: - Scan
a 180 Degree Field of "Vision" taking light level readings, and
determining the brightest direction of light. - Decide if it needs
to turn left, right, or continue moving forward. - Check for colli-
```

sion with an object while moving, if a collision occurs, display the total travel distance on the display - Move forward for 1.5 Seconds and then repeat the process.

Currently I am using Two Futaba FP-S128 Servos (any RC Car Servos would work) one to sweep it's "sensors" form left to right, and one to "stear" the robot.

You can see pictures and more information on my homepage, just follow the lego robot link.

```
================================================================
Title : Factory Monitoring System [# 011]
================================================================
Date : 951120
Author: Paul Willemse
E-mail: pjwill@merlion.singnet.com.sg
----------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author
----------------------------------------------------------------
Description :
```

The system presently consists of 4 Basic Stamp units. Each monitors up to 5 inputs. The inputs are 'digital' (switches) and/or analog (temp, airflow, current, etc using commercial sensors). All stamps communicate the results via serial mode to a Macintosh (Yes a Mac!) where the results are graphically displayed and monitored. Alarms are set for certain conditions.

The transmission is simple, one way only. Each stamp sends the info at a 'random' interval not exceeding 2 seconds. The message format is fixed, the Mac will throw away any conflicts in case two or more stamps transmit at the same time. BTW this happens very seldom. The max time any stamp can be 'absent' from the chain before an alarm is raised is six seconds (failure, transmission collisons, etc). This is controlled by the Mac.

The 'system' is presently in beta test, the client wishes to expand up to 20 stamps. At that point we will likely use the BS1-IC or BS2-IC on custom boards located around the facility.

Code is available upon request (e-mail) partial, some is proprietory to my client.

```
================================================================
Title : Wave to the Cats/Desk Temperature [# 012]
================================================================
Date : 951121
Author: Paul Haas
E-mail: paulh@hamjudo.com
```

Stamp model : BS1-IC
Code available: Yes
Filename : See web server
URL : http://hogwild.hamjudo.com/cgi-bin/stamp

Description :

The Stamp has a serial connection to web server, a cardboard hand, a servo motor to move the hand, and a DS1620 thermostat chip to measure the temperature. The web server can request the current temperature or start the hand waving. See the web page for the source code for the temp and the web server.

It's mostly useless. The cats ignore the hand. A few people find it entertaining.

==========
Title : Gamer's Die Roller [# 013]
==========
Date : 951122
Author: Larry Tremblay
E-mail: ltremblay@domus.com

Stamp model : BS2-IC
Code available: N/A
Filename : N/A
URL : N/A

Description :

The Gamer's Die roller is a little thing I am putting together as my first Stamp Project. The Roller allows cumulative rolls of n dice up to 256 sides, so long as the sum does not exceed 99,999,999(!)

It uses two 74HC161 4 bit counters cycling at 1MHz to draw random numbers off of. Input is achieved via a Grayhill model 38 keypad and a 74C922 keypad decoder. Display is on a Siemens PDSP-2111 8 character smart display (5x7 LED characters) fed by two 74HC164 serial to parallel shift registers cascaded so I can use Shiftout to feed 16 bits of control + data off of 2 pins.

The code is very simple, the most exotic part being the random number generation. In a nutshell, it is:

Begin Loop
S = 8 bit number drawn from the counter (random)
if S < (255/N) x N (integer divide, N is number of sides on die)
exit Loop
End Loop

This gets (pseudo) random numbers whose average is not skewed downwards by the counter's max of 256 (i.e. a 100 sided die is not

affected by the extra 56 in the count maximum)

Using gamer's dice notation, (5d6 = sum of 5 six sided dice, 3d10 = sum of 3 ten sided dice), the user can input whatever combination they wish, including just 'd6' for one six sider. The keypad I have has removeable keycaps with legends, so I have 0-9 plus 'd' and '=' on them.

As noted earlier, since I am using an 8 bit counter, the maximum die size is 256, although that could be fixed easily by sampling two, three or more times for each die.

Anyhow, that's it. When the code is done and debugged, I'll be happy to e-mail it to any who want it.

==========
Title : Stamp II Serial I/O [# 014]
==========
Date : 951128
Author: John Hansknecht
E-mail: Hansknec@cebaf.gov

Stamp model : BS2-IC
Code available: Yes
Filename : HAL01.bs2 and HAL01.bas
URL : ftp.parallaxinc.com

Description :

A bare-bones demonstation of 2 way serial communications between a PC running Qbasic and 1 or more Stamp II's.

==========
Title : Voice and CW Fox Hunt Transmitter IDer [# 015]
==========
Date : 951221
Author: Sam Guccione
E-mail: sguccion@outland.dtcc.edu

Stamp model : Counterfeit Stamp
Code available: Yes
Filename : Revision of S. Edwards MORSE program
URL : N/A

Description :

An IDer based upon the MORSE program. Has 4 time delays as well as a random time delay. Circuitry includes selection of a voice id using the Radio Shack 10 voice board or the Walden bookstore 10 sec talking gift card. This is a very simple circuit and program but was developed by my students under my direction.

May be of interest to someone out there.

```
==========================================================================
Title : Lift (elevator) Controller [# 016]
==========================================================================
Date : 951225
Author: Dave Bell
E-mail: dbell@cup.portal.com
--------------------------------------------------------------------------
Stamp model : Faux Stamp (BASIC Stamp clone)
Code available: Yes
Filename : Upon request
URL : N/A
--------------------------------------------------------------------------
Description :

A simple control loop monitoring lift Call buttons (with debounce)
and Limit switches, forbidding manual control past limits, and en-
forcing a Stop before reversal of direction. This will be used in
an owner -designed and -built single story platform lift for a home.

==========================================================================
Title : Paging with the Stamp [# 017]
==========================================================================
Date : 960104
Author: Kurt Clement
E-mail: kclement@kraft.com
--------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Yes
Filename : monitor.bas
URL : N/A
--------------------------------------------------------------------------
Description :

Use the Stamp to monitor several inputs, two temperature and two
contact closures in this application. When inputs go outside set
limits, dial pager and send coded message. Used to monitor power
failures and temperatures for computer and network equipment since
August 1994, running on 9 V power supply from one of the UPS units.

==========================================================================
Title : Switching Sytem [# 018]
==========================================================================
Date : 960109
Author: Alexander Avendano
E-mail: aavendan@aros.net
--------------------------------------------------------------------------
Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A
--------------------------------------------------------------------------
Description :
```

I'm almost finishing a Basic Stamp Based Switching System (Small Phone system) which I consider very usefull for small companies that cant'n afford other brands. This is designed with a host computer which will have a vox-mail and all the functions like big ones to choose. I'm using BS1-IC's for the extensions process right now.

As soon I have complete it I will give the code away for small Intelligent Switching phone system up to 2 Lines and 4 Extensions using the L.C.D serial circuitry for information display. I forgot to mention that the computer (Host for many processing functions) will be running under Windows 3.1 and Windows 95, making this way a usefull computer not only for the phone system but for ithers application at the office.

Please be free to send me E-mail, about any suggestion.

==========
Title : Door Entry Card Reader [# 019]
==========
Date : 960110
Author: Ed Buckley/J J Barbarello
E-mail: ed@milinst.demon.co.uk

Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : N/A

Description :

Stamp 1 based version of the Card Reader article by J J Barbello as described in the August 1995 edition of Electronics Now. This version uses the Stamp 1 as a local controller determining the card number and deciding whether or not to allow door opening. Optional serial comms back to a master controller and optional local message readout using an LCD Backpack.

Lots of scope for further enhancement/experimentation. Circuit schematic and listing available.

==========
Title : Telephone Card Reader [# 020]
==========
Date : 960119
Author: Francesco Volpe
E-mail: f.volpe@ee.mu.oz.au

Stamp model : BS2-IC Module
Code available: YES
Filename : TELEMARK.LZH
URL : ftp://ftp.ix.de/pub/elrad/010/

Description :

The BS-II is used to read a German telephone card, which is a smart card. For more details see the German Electronic Magazine ELRAD (http://www.ix.de/el).

The data is transfered via RS232 to any terminal program.

==========
Title : DTMF Decoder [# 021]
==========
Date : 960125
Author: Joe Altieri
E-mail: radioman@banished.com

Stamp model : BS2-IC Module
Code available: YES
Filename : DECODE.BS2
URL : N/A

Description :

A new parallax BASIC Stamp II program for decoding a nine digit DTMF sequence of "Touch Tones" for remote activation/de-activation of any electrical appliance via Ham Radio, radio link, telephones, intercoms, etc.

==========
Title : Ion chamber radiation monitor [# 022]
==========
Date : 960125
Author: Jeffrey L. Rothman
E-mail: rothman@bnlls1.nsls.bnl.gov

Stamp model : BS1-IC Module
Code available: YES
Filename : RADMON12.BAS
URL : N/A

Description :

A Basic Stamp monitors the operation of an ion chamber radiation detector. The ion chamber and related circuitry produce a signal with a frequency proportional to the dose rate. The Stamp measures the frequency and calculates the dose rate and total integrated dose.

The results are displayed on a log scale panel meter and an LCD respectively. The dose rate is also transmitted over RS-232 to a remote PC.

A Front panel button allows the user to reset the total integrated dose. Another button allows the audio alarm to be muted at low dose rates.

```
=============================================================================
Title : Barn Monitor [# 023]
=============================================================================
Date : 960203
Author: Lynn A. Roth
E-mail: lynnr@hesston.edu
-----------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author
-----------------------------------------------------------------------------
Description :

The Barn Monitor checks the temperature in 5 rooms of a farrowing
house. The temperatures are taken by DS1620 chips.

If the temperature goes outside the limit set by the farmer, the
Stamp dials a pager using a 2400 baud MODEM. The same occurs if the
power goes out.

=============================================================================
Title : Dallas one-wire interface [# 024]
=============================================================================
Date : 960212
Author: Daniel G. Clemmensen
E-mail: dgc@shirenet.com
-----------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.shirenet.com/~dgc
-----------------------------------------------------------------------------
Description :

As part of a furnace controller project, I've interfaced A Stamp II
to a string of Dallas 1820 digital thermometers. The interface
consists of three cheap IC's and some subroutines. A design note and
a demo program are available on the web. I have successfully tested
the interface with a string of twelve 1820's.

I have not yet tested it with other one-wire devices, although I
will update my web site when I do.

=============================================================================
Title : Sculpture control [# 025]
=============================================================================
Date : 960323
Author: Pierre Olivier
E-mail: olipie@aei.ca
-----------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: N/A
```

Filename : N/A
URL : N/A

Description :

I have been working with sculptors for some time doing control circuits for their works using 555 (limited), industrial controllers (expensive and hell to program) and lately Basic Stamp.

Our latest piece deals with image deconstruction: it consists of 20 vertical cylinders on which an image is wrapped. Each has a photo detector to detect "position zero", and a custom basic stamp board with a MC3479 step motor driver that drives a step motor which turns one cylinder. Each cylinder can thus have its own routine which positions it precisely (400 steps/rev motors) where we want it for any amount of time, at any speed (very interesting sonically at sub-second stepping speeds!).

The stamp outputs direction, step and enable signals to the motor driver and a ready signal to a common line. It receives signals from the aforementionned ready line, and from the optical sensor.

It would have been quite a bit more complicated, bulkyer and expensive to implement this project without the stamp.

==========
Title : Commercial clothes dryer controler [# 026]
==========
Date : 960401
Author: J Amy
E-mail: Kuznjack@aol.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : N/A

Description :

Detects drop of coin and increments time remaining register. Actuates main and heat relays. Checks temperature, and controles heat relay Periodically decriments time remaining register. Provides cool down cycle in last four minits.

Replaces original controler which costs several hundred dollars, and is not reliable.

==========
Title : Morse Code Keyer [# 027]
==========
Date : 960415
Author: Richard Clemens
E-mail: clemens@academ.wvwc.edu

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.ccue.org/stamps/morse2_bs2.html

Description :

This program provides a four message keyer for Amateur Radio. The user can input four different messages, their character counts, and use four buttons to display the output and/or key a transmitter.

NB: the messages are limited to the upper and lower case letters, digits 0-9, space, period, comma, ? and /

Program is based on the information in Stamp I - Note 8 and uses some code from that note.

==========
Title : Traffic Light Controller [# 028]
==========
Date : 960418
Author: M-Systems Inc.
E-mail: mstems@aol.com

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

We have used a BS1-IC to control a simple two way intersection coordinate the timing and switching of a traffic light at a two way traffic intersection.

==========
Title : Automotive Lamp Control [# 029]
==========
Date : 960427
Author: Ron Woodward
E-mail: RWoodward@gnn.com

Stamp model : BS2-IC Module
Code available: N/A (Will share concepts)
Filename : N/A
URL : N/A

Description :

This system involved connecting two BS2 units to a bank of 28 MOSFET drivers which controled the external lighting in a demonstration

vehicle shown at the SAE expo in Detroit MI.

The lighting control had to perform PWM modulation simultaniously on 10 different circuits while controling Turn, Stop, Tail, Backup Hi Beam, Low Beam and fog lamp circuits with a set of preprogrammed timing sequences.

The timing was worked out so that the PWM of the lamps was flicker free throughtout the demonstration sequence.

The BS2 units worked together in a master - slave relationship to maintain proper sequencing of lights on both hands of the vehicle.

==========
Title : Single Switch Scanning Device for Disabled [# 030]
==========
Date : 960508
Author: Chuck Benson
E-mail: Chuck%6567006@mcimail.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author

Description :

This project modifies a Lanier VoiceWriter dictation device so that it can be operated by a person with a severe disability such as quadriplegia.

The interface to the device is via the VoiceWriter's hand contro-ller. The connections to the external switches are removed and replaced with switch closures via reed relays driven directly by the PIC's (BASIC Stamp's) I/O.

The user starts operation of the device by operating a SPST switch (typically with his or her cheek or jaw). The user then hears a series of five (5) tones which come from a piezo-electric speaker driven directly from an I/O pin.

The tones correspond to 'Play', 'Stop', 'Record', 'Rewind','Fast Forward'. When the desired tone is heard, the user activates the switch again and a relay corresponding to that function is closed. This in turn provides the desired function from the dictation device.

The code is a series of nested loops that provide the tone & the relay selection. Copies of code are available upon e-mail request.

==========
Title : Bell timer for school bell control [# 031]
==========

Date : 960511
Author: David Abineri
E-mail: dabineri@tso.cin.ix.net

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author

Description :

This is a sytem which allows flexible control of bell schedules for schools. One may program up to seven different schedules of 30 different times each. Data entry is with a small keypad. Indicators show the schedule currently being used and the day of the week.

Users may instantly select which schedule to follow and may even enter a special schedule in a matter of a minute or so. The system simply operates a relay that rings all the bells in the building. Editing schedules is allowed as well as manual operation.

==========
Title : RIMS controller for beer making [# 032]
==========
Date : 960511
Author: C.D. Pritchard
E-mail: cdp@chattanooga.net

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author

Description :

Controls mash temperature on a recirculation infusion mash system (RIMS) and also controls the sparge water tank temperature. Uses thermistors to monitor temps- 2 on the RIMS and 1 in sparge water tank.

Controls AC power supply to two 1500W heaters via optoisolators/ zero-crossing driven triacs. Setpoints are entered via 4 keys. Elapsed times, temperatures, setpoints and heater statuses are displayed on a 2x16 LCD. Sends data via RS232 to a PC for logging and analysis.

==========

1.5 Credits and other things

Credits should go to all of you who makes this list possible I hope it suffices to say "Thank you to all who have contributed to L.O.S.A

- we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support this great products !

If there is anything you think I've missed (or spelled wrong <g>) I would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@hth.com

Stay tuned,

/Christer

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-=-=-=

3572. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p1pai$26k@newsbf02.news.aol.com>
Source record: 104900

In article <4p1lfl$icf@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>Tom, do you mean in the middle of the inductor? If so, I
>don't see how this affects the applicability of the Amidon
>flux density formula. Phase shift between voltage and current
>will occur within the inductor no matter how it's used.
>
>73,
>Jack WB3U

No, in the middle of the resonant network. The inductor is part of a resonant circuit, just as a balun is when feeding a reactive load. This increases the heating and fux density in direct proportion to the system's operating Q.

In a given system, an operating Q of ten (when the inductor is part of the reasonat system) increases losses and heat by the same amount over a system with a Q of unity. That applies to baluns as well as tanks. System Q is important.

73 Tom

3573. Electronics Encyclopedia for hobbyists

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: tkomljan@mobility.COM
Message-ID: <1996Jun04.130251.1540.72977@mailgate02.mobility.com>
Source record: 104901

Is there available an electronic's encyclopedia (reference CD) that is a compilation of various data books, parts schematics, symbols, pinouts, etc available in CD format?

Essentially, a CD that can be used as a hobbyist's point of reference?

Thank you in advance!

Tony Komljanec,
VA3TK
tkomljan@mobility.com

3574. PCB Manufactures in UK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: Matthew Bailey <matt@kascade.demon.co.uk>
Message-ID: <708624708wnr@kascade.demon.co.uk>
Source record: 104902

I am looking for a company in the UK to make a PCB for me. In the past I've made my own PCB's but my designs are becoming more and more complicated and I do not have the proper facilities at home. I would be grateful if anyone could send me any details or recommend any companies that I might be able to use. The PCB will be a 2 layer design with through platted holes and a silk screen.

I realise this is probably not the correct news group to ask this question, but after a number of searches on the news groups I thought this might be the most appropriate. I spent an hour searching the WWW this morning and found a number of PCB Manufactures in America but nothing in the UK.

Matthew Bailey

--

| Matthew Bailey EMail matt@kascade.demon.co.uk |
| G7KSG |

3575. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4p1qsd$61n@blixen.aquilagroup.com>
Source record: 104903

Jay Radcliffe <n8rhv19@mail.alliance.net> wrote:
>.... What is either a good
>book to read to help me understand how to build one and/or a good project already designed to help
>me accomplish this task.

Been in this mode myself . Here is my take:

Plan on a grounded grid design. This is by far the easiest to stabilize, and does have some effiency advantages.

Don't even consider trying to run a triode in common cathode mode...It's just begging to oscillate.

ARRL handbook has several designs, w/construction articles, and a design example. These vary from year to year, so you should seek out some older handbooks, and get a feel for the variety of designs.

2x 3-500Z or 1x 8877 are "normal" tubes for amateurs to use. Other tubes will work too. The handbook has a table of parameters in the back. You can connect "extra" grids of pentode and tetrode's to control grid and "make" a triode if you find a good deal on them.

Some of the Russian tubes look pretty good. It may be worth designing around these. When selecting any tube, be sure to consider cost of sockets and other unique hardware it requires. Also mind the drive requirement under grounded grid service...you need fairly high gain to get 1500W output at only 100W input. If you find a good deal on a non-standard tube, I'bd bite the bullet and buy spares up front. No telling when russia might collapse, taking your source of spares with it. The prices can be good enogh to make this a viable option.

Typical leagal limit amp willl need ~3500 V at nearly an amp. Running lower voltage can cause problems achieving adiquate drive without excessive grid current., Still, I have seen designs running as low as 1500V. Depends on your tube. Figure ~2500W will be required from plate supply, less voltage needs more current, more filter cap.

Start accumulating bits at swap meets. Make a list of required components etc.

If you can find a really hot deal on any of the following critical items, snap it up and design the rest of the amp around it:

-Vacuum variable plate tuning cap.

-New tube(s) ..beware of used tubes. If you find great deal, it is probably used....but if replacement would be reasonable, it

-Sockets and/or chimmneys.

-Plate transformer.

When you have 2-3 of these items, it is time to "get serious", about finding things to finish the job. put some WTB messages on the swap nets etc.

Work your way into an 80M net. Lowbanders NEED amps, and many 80M types tend to accumulate/hoard key items.

Also keep your eyes peeled for blower, HV filter caps, HV bandswitches, Large cabinets, vacuum relays, plate choke, meters, knobs.and the like. These sorts of things add up to hundreds of dollars if bought new, so there is still a lot of room for scrounging/saving, even if you end up paying full boat for the "big ticket" items.

Good luck, and only use that sucker when you need it!

-KF-

3576. Re: soldering battery tabs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: zawodny@primenet.com
Message-ID: <31b431f9.405621@news.primenet.com>
Source record: 104904

sw1gak@polaris.mindport.NET (Spencer Trombly) wrote:

> Go to a welding supply shop or to a REAL hardware store and get some
>"DUZ ALL" flux.
>Works gud.

Spencer,

I MAY be wrong, but i do believe that there are 2 u's in guud.

:)

Dave

3577. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: bart@wb6hqk.ampr.org
Message-ID: <DsHGEv.Mup@wb6hqk.ampr.org>
Source record: 104905

In article <drpDs6z6M.9CK@netcom.com>, Randy Petersen <drp@netcom.com> wrote:
>I have a project that I am working on which requires a 10 to 30 hz
>broad range white noise generator. I have found many subaudible tone
>generator circuits, but have not found a circuit that would put out
>10 to 30 hz as white noise. This will be used for some masking and
>attenuation experiments. If you can help please let me know.
>

Consider a digital puesdo random noise generator. It's typically implemented as a shift register
with feedback arranged to generate a sequence which when low pass filtered has a constant power
per bandwidth (white) characteristic. The clock rate determines the maximum frequency before the
spectrum begins to droop (sin(x)/x) and typically is at least five times the maximum desired
frequency. The sequence length should be long enough so the noise appears uncorrelated for your
purposes. A 12 bit shift register gives a sequence length of 4095 cycles and is probably enough
if you clock it at 500 Hz or so. You can greatly reduce the demand on the low pass filter by
using several bits from the sequence to drive a D-A converter giving more voltage levels on the
generator output.

I think the book "The Art of Electronics" by Horowitz and Hill has exactly what you're looking for.

bart wb6hqk

bart@wb6hqk.ampr.org

3578. NBVM - what is it please?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: word.factory@zetnet.co.uk
Message-ID: <4p1vlr$6h0@roch.zetnet.co.uk>
Source record: 104906

Grolier's Multimedia Encyclpedia release 6 has this entry under 'ham radio':

"Amateur, or 'ham,' radio, a noncommercial system of communication, is as old as the medium of RADIO itself. The origin of the term ham radio is unknown. Many important communications discoveries have been made by hams. Amateurs, for example, perfected the single sideband (SSB) mode, now widely used by the military, after World War II; in the late 1970s, three hams developed the revolutionary new system of narrow-band voice modulation (NBVM). Both systems offer dramatic improvements over AMPLITUDE MODULATION (AM) and FREQUENCY MODULATION (FM) for long-distance voice communication and have increased the number of stations that can use a given portion of the crowded radio spectrum (see TELECOMMUNICATIONS)"

What is NBVM please? I think CQ or QST published something on it but our local library does not have indexes for these journals. Can anyone help?

73 de
John Rabson G3PAI

3579. Re: Ultra high performance receivers, misc thoughts, Dayton talks,

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: dnewkirk@arrl.org
Message-ID: <4p1hni$59q@mgate.arrl.org>
Source record: 104907

stoskopf@tri.NET (Lawrence Stoskopf) wrote:

[deletions]

> Bought ARRL Radio Designer and soon found that I couldn't access the
>schematic capture part so didn't follow up on that yet. (A joke I think!)

[rest deleted]

I hope so. ARRL Radio Designer does not include schematic capture and
has never been advertised as including it. We'd appreciate anyone
pointing out advertising material or reviews that have carried
statements or implications to the contrary.

73,

Dave Newkirk (WJ1Z)
Electronic Publications Editor, ARRL
email: dnewkirk@arrl.org

3580. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: Cecil Moore <kg7bk@primenet.com>
Message-ID: <4p24td$c9f@nnrp1.news.primenet.com>
Source record: 104908
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:

: Cecil, I'd love to know how exactly you did that (cap. value, wiring).

Hi again Isaac. I just realized that I didn't answer your question. My capacitor is a 0.09" spacing 20-180pf that I got from Fair Radio Sales for $10. It handles 600w just fine. It is mounted on a pair of #6 wire rails spaced about 3 inches apart and two ft in length. The capacitor slides back and forth on this 2 ft length of parallel feedline like a train car on tracks. This gives me an analog positioning of the capacitor to ensure a perfect SWR on all frequencies on all bands. I use the 32/16/8/4/2 ft relay-selected Ladder-Line Length Selector for the course adjustment and the capacitor on rails for the fine adjustment. Ladder-line and one cap - gotta be close to minimum losses.

73, Cecil, KG7BK (W6RCA soon), OOTC

3581. Re: LOWFER and 2M tx/rx schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960604123747.1358E-100000@spork.callamer.com>
Source record: 104909

Regarding LOWFER activities: http://users.aol.com/lwcanews/
http://w3.ietc.ca/home/bill/bbs.htm

On 1 Jun 1996 mwilsher@randomhouse.com wrote:

>
> Hello,
>
> I'm looking for sources, either internet based or otherwise,
> of schematics of Lowerfer transmitters and recievers as well as 2 meters
> schematics. I am interested in QRP (under 1W) comunications. I haven't
> found much on the internet. Is there a site or something around.
>
> Please respond via e-mail or post.
>
> Thanks
> MikeW - KC5DOB
>
>

3582. Re: soldering battery tabs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960604124708.1358F-100000@spork.callamer.com>
Source record: 104910

Another good flux that work well is SAL MET. This material is carried by radio/TV supply stores also. Cliff Buttschardt W6HDO/K7RR

On 3 Jun 1996, Spencer Trombly wrote:

> Go to a welding supply shop or to a REAL hardware store and get some
> "DUZ ALL" flux.
> Works gud.
>
>

3583. Re: AM Modulation Scheme ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960604125040.1358G-100000@spork.callamer.com>
Source record: 104911

Steve you have a classic Heising modulation transformer used years ago. The higher current winding starts at the high voltage feed point. The center tap goes to a class A audio modulator tube. The lower current winding is then connected to the RF final amplifier. Great system-- works well, can not be overmodulated! Cliff Buttschardt W6HDO/K7RR

On 1 Jun 1996, K1EL wrote:

> I have a military AM modulation transformer that I would like to use in a
> low power AM transmitter I am building (25 watts). The question is: The
> transformer has a single center tapped coil and is intended for push pull
> modulation. One leg of the coil has a much higher current rating than the
> other (70 ma vs 150ma) this is the end that would be connected to the
> plate of the final amplifier stage of the transmitter. Does anybody have
> any schematics for this type of modulation. I suppose it is similar to a
> Heising configuration except that the modulation drive is double-ended
> rather than single.
>
> Regards Steve K1EL
>
>

3584. Re: Late 60's early 70's ARRL Handbook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p26g8$onq@crash.microserve.net>
Source record: 104912

Joe Leikhim <Jleikhim@nettally.com> wrote:

>If anyone out there has this vintage Handbook please check for
>a 6 meter amplifier circuit using a pair (Au PAIR?) 4-125 or 6155
>tubes in push pull. I would like a reprint of the schematic and
>any power supply or biasing details for a half finished project.

The '62 Handbook only has a circuit using a single 4-250A for
6 meters and a push-pull 4-125A design for 2 meters. The '71
and '72 Handbooks show a single 3-500Z design for 6 meters.

Sorry I can't be more help, but I don't have any other years
close to the range you mentioned. Perhaps the circuit you're
looking for is between these years.

73,
Jack WB3U

3585. Re: Ultra High Performance Receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <833913125snz@lfheller.demon.co.uk>
Source record: 104913

In article <bigr-0306961649510001@ip-pdx19-42.teleport.com>
bigr@teleport.com "bigr" writes:

> I've gotten an awful lot of mail ever since I posted info on some of my
> receiver work, much of it directly to me and not posted on the newsgroup.
>
> My apologies if I have not been able to answer all the questions. I will
> get around to this but I really need to get the soldering station warmed
> up and finish up the Carver AD600 IF amp, now that I have all the parts.
>
> I've also subscribed to some Tesla coil builders newgroups, so maybe I'm
> getting into internet over my head.

How much are people paying for AD600s? I was quoted about ₯27 (UK) each
by a distributor. Perhaps I ought to try to get some samples. 8-)

73, Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

3586. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p26ik$onq@crash.microserve.net>
Source record: 104914

Jay Radcliffe <n8rhv19@mail.alliance.net> wrote:

>I am interested in building a tube amplifer for my HF rig
>(Kenwood TS-940). What is either a good book to read to help me
>understand how to build one and/or a good project already designed
>to help me accomplish this task. I'm not in a rush to have this
>amp, it's more of something to keep busy.

Some of the best construction articles and HF amplifier designs have been published in ARRL Handbooks between approximately 1960 and 1980. In addition, these books have chapters on power supply, vacuum tube and amplifier theory that complement the articles. You should look for as many of these books as you can find, particularly those that show articles designed around the tube(s) you want to use.

Regarding tubes, the 811A and 3-500Z triodes are among the best on the basis of "dollars per watt". For the ultimate in legal limit power (although at higher cost), the 8877 is hard to beat.

73,
Jack WB3U

3587. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: stevem@w6yx.stanford.edu
Message-ID: <4p260p$ks@nntp.Stanford.EDU>
Source record: 104915

In article <4p1lil$icf@crash.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
> ESPI35E@prodigy.com (Rod Lane) wrote:
>
>>We're talking FM video here. Although there is some AM component,
>>actually more than a bit, we're interested in the FM modulation
>>here at 2.4 GHz.
>
>This thread has raised two issues that I don't understand.
>
>First, AM modulated NTSC (VSB) video is most easily generated
>through the use of a low-level IF output modulator. Such a
>modulator usually contains a visual SAW filter at 45.75 MHz
>that is responsible for comverting the DSB visual signal to
>VSB. Why aren't hams using this approach? It would certainly
>be less expensive to build a VSB IF modulator than to use a
>pair of 4CX250B's in a high-level modulator at the final.
>It's also a more efficient use of power and spectrum.
>
>Second, why are hams using FM video? Aside from the huge
>amount of bandwidth it requires, it's the mode that's least
>compatible with commonly-available reception equipment,
>including NTSC TV receivers.
>
>On a related topic, do most ATV transmitters upconvert and
>amplify the signal in a combined visual/aural format? Haven't
>hams made the switch to separate upconversion/amplifier chains
>for the visual and aural carriers? This technique greatly
>reduces intermod and allows much greater visual carrier output
>than combined amplification.
>
>73,
>Jack WB3U

Addressing some of these questions:

I don't think there is a way to use a magnetron from an oven
in a system using low level VSB modulation.

I have found that, in my area, most ATVers are not homebrew types.
They can only use what is on the amateur market. With the exeption
of the AEA transmitter, which I believe is no longer produced, all
of the AM ATV products are double sideband. Even if somoenoe were
to employ a low level modulator, there are no amplifiers on the
amateur market with good enough IMD perfromance to preserve the
integrity of a VSB spectrum.

FMTV is a great way to go on the microwave bands where there is room for it. Anyone who has seen the difference between a good satellite feed, and the video from a AM TV broadcast would understand why. There is also a big threshold advantage of FM video over AM. I have long been a proponent of ATV repeater systems which have FM inputs (which make for inexpensive transmitters and better picture quality) and VSB-AM outputs (which make reception by users easy and confines the high cost of a good VSB transmitter to the repeater only).

Hope that helps.

Steve Muther WF6R
stevem@w6yx.stanford.edu

3588. How to fight Burt & L.E.O.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: dougd@lrbcg.com
Message-ID: <4p24n2$27d@news.dx.net>
Source record: 104916
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.antenna,rec.radio.amateur.homebrew

PLEASE READ THE FOLLOWING
THOROUGHLY AND ACT
ACORDINGLY!!!!!!!!!!!!!!!

This is the text of an email message being circulated by
ARRL
officials:

This is serious. Please distribute widely. Send letters via
US Mail or
via email (addresses provided). This is a direct threat to
the 2 meter
band and to the 70 cm band.

Dan N1JEB

Daniel Senie Internet: dan@senie.com,
Daniel Senie Consulting n1jeb@senie.com
http://www.senie.com Packet Radio: N1JEB@KA1SRD.MA

If we suffer tamely a lawless attack upon our liberty, we
encourage it,
and involve others in our doom. -- Samuel Adams

---------- Forwarded message ----------
Date: Tue, 28 May 1996 20:04:25 -0400 (EDT)
From: Alan Shuman
To: bowles@cmf.org
Subject: Re: 96-AKS-079 URGENT! Special Div Dir's Bulletin
96-09A

96-AKS-079

From: A Shuman
N1FIK
SM NH

If you have never written a letter before, please
act now !!

73 Al

QST DE WB1BRE
ARRL NEW ENGLAND DIVISION DIRECTOR
STRAFFORD VT, MAY 1996

SPECIAL DIVISION DIRECTORS BULLETIN 96-09A
TO ALL RADIO AMATEURS

FOR IMMEDIATE RELEASE

*****ARRL NEW ENGLAND DIVISION SPECIAL BULLETIN
96-9A*****

QST to all Amateurs

May, 1996

Strafford, VT

NEW ENGLAND DIVISION DIRECTOR NEW ENGLAND
DIVISION VICE DIRECTOR
Bill Burden WB1BRE Warren Rothberg
WB1HBB
wb1bre@arrl.org wb1hbb@arrl.org

********** 2 Meter AND 70 cm BANDS THREATENED
****

THIS IS NO JOKE!! ARRL HAS LEARNED THAT IN
PREPARATION FOR THE
WORLD RADIO CONFERENCE IN 1997, REPRESENTATIVES OF THE
LOW-EARTH-ORBIT
(LEO) INDUSTRY PROPOSED A LIST OF CANDIDATE
FREQUENCY BANDS FOR
REALLOCATION TO, AND EXCLUSIVE USE OF THE MOBILE SATELLITE
SERVICE. THIS
LIST INCLUDES 144- 148 MHZ (THE CURRENT AMATEUR 2 M BAND)
AND 420-450 MHZ
(THE CURRENT AMATEUR 70 CM BAND)!
IF THIS EFFORT WERE TO BE SUCCESSFUL, IT WOULD
MEAN THE END OF
AMATEUR OPERATIONS ON THESE TWO MOST HEAVILY UTILIZED
AMATEUR VHF/UHF
BANDS!

I have included the text of Dave Sumner's upcoming
editorial for
July QST in this bulletin. ARRL, as the principal
representative of
Amateur Radio in Washington, is actively pursuing this
issue as this
bulletin is being written. Dave's call to action is
serious!! We could
lose these bands if we do not take action now!!

Club presidents and newsletter editors:
please make this
information available to your membership as soon as
possible.

Follows the text of Dave Sumner's July QST editorial:

WRITE NOW!!!!

Get out a pen and paper, or boot up your computer.
There's work to
be done! Your help is needed to defend two meters and
70 cm. Yes,
that's right -- the two most popular and crowded amateur
VHF/UHF bands!
But don't panic, and don't "go ballistic."
Here's what's happening, and what you can do about it.
The United States is preparing for the 1997
ITU World
Radiocommunication Conference, WRC-97. In the past, the
public has been
able to participate in the preparations for such
conferences by
responding to FCC Notices of Inquiry. In March, the
FCC announced a
streamlining of its International Bureau's preparatory
processes for
WRCs. Under the new scheme, the NOIs have been
eliminated in favor of
increased emphasis on WRC Advisory Committees.
For WRC-97, a series of Informal Working Groups
(IWGs) of the
Advisory Committee has been created to address specific
agenda items.□
The output of each IWG will go directly to a joint
FCC-NTIA-Department of
State Steering Committee of the Advisory Committee.
There, draft
proposals as received from the IWGs will be reviewed and
forwarded to the
FCC for possible release as preliminary U.S.
proposals for public
comment.
In announcing the streamlined WRC preparatory process,
the FCC tried
to reassure those who might be concerned about reduced
opportunities for
public participation: "Interested parties should note
that input to the

Advisory Committee may be sent at any time directly to the Chair of the WRC-97 Advisory Committee; the Chairs of the Advisory Committee's Informal Working Groups; Cecily C. Holiday, the FCC's federal officer of the WRC-97 Advisory Committee, or to Damon C. Ladson, the alternate federal officer."

Hold that thought while we shift gears to the substance of the issue.

One of the WRC-97 agenda items includes consideration of possible additional frequency allocations for the mobile-satellite service.

So-called "little LEOs," low-earth orbit satellites below 1 GHz, already have allocations. Their proponents claim these are inadequate and are trying for more. The needs of little LEOs are being addressed in IWG-2A, chaired by Warren Richards of the Department of State. The ARRL☐ technical relations staff participates in IWG-2A to represent Amateur Radio interests.

At the May 7 IWG-2A meeting, an industry representative proposed a list of "candidate bands" for little LEOs. The list includes a number of bands that would negatively impact existing services, and does not include others that would be technically more feasible but to which strong objection from incumbents could be expected -- the point being that some political, rather than purely technical, judgment already has influenced the list.

Incredibly, 144-148 and 420-450 MHz were included on the list! This is the first time in memory that another service has been proposed for the two-meter amateur band. We must make sure it is also the last time.

We do not need to explain to ARRL members the extensive use that is made of these bands by amateurs. The two bands provide

the backbone of
our local public service communications effort. Voice
and data, mobile
and fixed, even television -- the list of present amateur
uses is a long
one, and of future uses is even longer. Both are
already used for
satellite services and for moonbounce and
extended-range terrestrial
operations requiring extremely sensitive receivers and
high levels of
effective radiated power.
Apparently we did need to explain all this to
the little LEO
industry representatives, so we did just that -- both at
the meeting and
in a followup letter on May 15. We also explained that we
had to regard
the matter as extremely serious. No one with the slightest
background in
radiocommunication could possibly believe that a
mobile- satellite
service could be introduced into either band without
disrupting existing
and future amateur operations. Therefore, we said, if we
did not receive
assurance that they would be taken off the list of
candidate bands by the
deadline for this issue of QST, we would have no choice but
to bring the□
matter to the attention of the entire membership.
The response we received was unsatisfactory. In
effect, we were□
told the little LEO industry would consider our views
but that until
their spectrum needs are satisfied, all bands must
remain under
consideration.
So, this is a call to action. We must get across
to the industry
and government participants in IWG-2A that the 144- 148
MHz and 420-450
MHz bands cannot be considered as candidates for
mobile-satellite
services. We need to drive the point home so forcefully,
with so many
grassroots responses, that no one is ever tempted to try
this again.
Which brings us back to that invitation for

"interested parties" to
send input "at any time." There's no time like the present!
Here are the
key addresses, including those of the mobile-satellite
industry folks who
seem to have started the ruckus:

Cecily C. Holiday, International Bureau, FCC, Washington,
DC
20554; choliday@fcc.gov; FAX (202) 418-0748.
Warren G. Richards, Chair, IWG-2A, Department of State, CIP
2529, Washington, DC 20520;
richardswg@ms8620wpoa.us-state.gov; FAX (202) 647-7407.
Tracey Weisler, FCC Rep., IWG-2A, International Bureau,
FCC,
Washington, DC 20554; tweisler@fcc.gov; FAX (202) 418-2824.

Mary Kay Williams, Final Analysis, Inc., 7500 Greenway
Center, Ste. 1240, Greenbelt, MD 20770; FAX (301) 474-3228.
Leslie Taylor, President, LTA, 6800 Carlynn Court,
Bethesda,
MD 20817; ltaylor@lta.com; FAX (301) 229-3148.

Do comment. But be civil. Don't abuse people who
are simply doing
their jobs. We have to get across that casting covetous
eyes on amateur
bands is counterproductive, and contrary to the public
interest. To
accomplish this we need a lot of comments, including yours.
But remember
that the objective is to educate and persuade, not to
intimidate. We
don't need to. The facts are on our side.
To monitor the FCC's ongoing WRC-97 preparations,
visit its WRC-97 home page at:
http://www.fcc.gov/ib/wrc97/.
Write now. Right now! -- David Sumner, K1ZZ

North Central Ohio Skywarn Info
http://www.amnorth.com/redbone/skywarn.html
http://www.amnorth.com/redbone/ham-page.html
http://lrbcg.com/dougd

3589. Re: Needed: FM stereo multiplex ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4p29o9$3si@shellx.best.com>
Source record: 104917
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

In article <4p05cg$hah@Nntp1.mcs.net>, <bosch@mcs.com> wrote:
>In <robert.833770310@kd3bj.ampr.org>, robert@kd3bj.ampr.org (Robert E. Garland) writes:
>>
>>Once upon a time ... National Semiconductor had a chip for stereo
>>multiplex and SCA in their catalog. You might call the nearest office
>>and ask if such an thing is still available.
>>
>
>There still is...it's the LM1800 (still around after 15 years). If you have a
>WWW browser available, you can download the data sheets from National
>Semiconductor's part database (http://www.natsemi.com or http://www.ns.com
>your choice). You need Adobe's Acrobat Reader in order to see the specs,
>though....
>
>Andrew
>bosch@mcs.com

Nope, Last I looked, the LM1800 was on the National's obsolete products
list.

Steve M. WF6R

3590. CMOS Keyer II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: Dio <diomar@electriciti.com>
Message-ID: <31B4A2DB.41C67EA6@electriciti.com>
Source record: 104918
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Looking for the CMOS Keyer II kit.

I have an address of:
Idiom Press
Box 1025
Geyserville, CA 95441

Anyone dealt with them?
Prices?
Do they have a tele#?

THX

--Dio
73 DE KE6WEO

Beacher Tool & Die
(A Hughe Jorgen Company)
1106 2nd St.
Suite 316
Encinitas, CA. 92024

3591. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: uncle@iap.net.au
Message-ID: <4p2aam$bsu@orange.iap.net.au>
Source record: 104919

Billy@don't.bother.sending (Billy the kid) wrote:

>In order to beat the bills of BT, I want to connect two computers about
>1/2 mile from each other.... I was thinking of using some sort of radio
>link, but I ain't sure if it will work. I was thinking of something like
>the below for both computers :
> _____________
> | \
>Modem ____|___ Receiver |_______ FM Transmitter
>input ________ output _______ Input
> | |
> |_____________/
>
>The two computers would be transmitting on different frequencies, but
>would some sort of feedback occur?

>If anyone could help me or point in the direction of a circuit
>which will do this

>Rgrds

>Peter Stevenson

First off, you'll need a license if you're going to transmit
anything. It'll never work on CB, so you'll have to study up
a bit and get your ham license. (No Morse nec, since in
this case you'd only be using vhf.)

Then look at a subject called "Packet Radio"
However, due the large bandwidth needed, switching
speeds are rather limited. Can you live with 1200 baud?

Uncle Brian VK6BQN

3592. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4p28o6$ja1@blixen.aquilagroup.com>
Source record: 104920

I seem to recall a 10 Mbps + voice microwave link from the ARRL
handbook.

It used two of the pretty cheap gunplexers, and was full duplex.

Seemed like they had an ECL feed .

Given that much, you still have to add a protocol layer, and software
to support it. Maybe you can make tcp/ip work....I don't know much
about that, except enogh to have great respect for those who do!

They had snow-saucers for dishes, but at half mile, I suspect the
horns alone would have sufficent gain.

I've had bad luck running modems over anyuthing other than tel-co
circuits...they are pretty much tweaked for that service.

GL, 73
ko0b

3593. Did anyone build AT-11 autotuner in Jan '96 QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: "nemo@akorn.net" <nemo@akorn.net>
Message-ID: <01bb5276.8e33d240$1564d9cd@paris>
Source record: 104921

I do a fair bit of mobile HF operation. In the past I have used Hustler resonators and a 9 foot mast
for 20 and 40 meter operation. Recently, I considered buying a SGC tuner and using a cheap CB whip on
the back of the car, but I was put off by the cost of the SGC tuner.

Has anyone built the AT-11 autotuner that was featured in January 96 QST? Seems to be a well
designed circuit. Does it remember settings from band to band or must it go through the retuning
process every time I go from 40 to 20 or vice versa?

All comments are appreciated regarding this kit and/or the SGC Smartuner.

Thanks,
Ernie KS4Q

3594. Parts data needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: stoskopf@tri.NET
Message-ID: <199606050107.UAA00595@tri.net>
Source record: 104922

Bought at Dayton new, but no specs and need working voltages:

ANZAC MD-112-3 0.01-12 GHz mixer in big yellow box. Has input for diode bias!
Has schematic on case so can probably play with the bias a bit, but would be
nice to have the bais data

Microsource YIG OSC 10.0-18.0 GHz. MS01018-236-01
Needs +15 v. and probably can start with low current on tune inputs to find
what gets me where I want to be. Would be nice to have heater voltage.

Thanks,
Lawrence E. Stoskopf, M.D.
N0UU

3595. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: Cecil Moore <kg7bk@primenet.com>
Message-ID: <4p2t9e$jcr@nnrp1.news.primenet.com>
Source record: 104923
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Brian Olliver <briano@briano.demon.co.uk> wrote:

: -i don't think a full wave dipole will radiate "check it out"
: maximum voltage will be at the centre of the half conductors
: thus cancelling each other-

Hi Brian, just because maximum voltage occurs at the center of a dipole doesn't mean it won't radiate (unless, of course, one is using coax to feed it directly. :-)

One of the very interesting things about 450 ohm ladder-line is that the SWR will be the same when feeding a 45 ohm half-wave dipole and when feeding a 4500 ohm full-wave dipole. That means that the SWR is somewhat consistent when using 450 ohm ladder-line so it really doesn't make any difference what the length of the dipole is (as long as it doesn't go below approximately 3/8 WL).
--
73, Cecil, KG7BK (W6RCA soon), OOTC

3596. Re: Parts data needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-04 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4p2qm0$h2b@shellx.best.com>
Source record: 104924

In article <199606050107.UAA00595@tri.net>,
Lawrence Stoskopf <stoskopf@tri.NET> wrote:
>Bought at Dayton new, but no specs and need working voltages:
>
>ANZAC MD-112-3 0.01-12 GHz mixer in big yellow box. Has input for diode bias!
>Has schematic on case so can probably play with the bias a bit, but would be
>nice to have the bais data
>
>
>Microsource YIG OSC 10.0-18.0 GHz. MS01018-236-01
>Needs +15 v. and probably can start with low current on tune inputs to find
>what gets me where I want to be. Would be nice to have heater voltage.
>
>Thanks,
>Lawrence E. Stoskopf, M.D.
>N0UU
>

I can't help with the mixer, but most YIGs I have seen have 24V heaters.
I have played with several that I picked up from fleamarkets and have
had no trouble firing them up, not knowing the tune currents, by using
a power supply with adjustable current limit.

Typically, I start at zero current at which point the YIG shows no
signs of oscillation. Increasing the current slowly, you will reach
a point where the oscillator starts, so just start plotting your
frequency vs. current chart there. If you have gotten up to 700mA
or so and have not seen any sign of oscillation, the beast is probably
dead. Note that you generally don't need the heater connected unless
you just want the added temperature stability.

Good Luck

Steve Muther WF6R
stevem@w6yx.stanford.edu
stevem@best.com

3597. Re: Frequency synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: mark@reson.com
Message-ID: <4p2rqs$rl3@daffy.sb.west.net>
Source record: 104829
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital

Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:

>I'm looking for a chip or way to design a system that will generate a
>sine wave at a programmable frequency. My problem is that I want to
>cover 160m-10m at least, preferably all the way up to 2m or 70cm. I
>assume that such a wideband chip does not exist, so I'm looking for
>ideas on how to build a system to do this. Cost must be as low as
>possible, and that limits me to relatively simple stuff. Also, my
>knowledge of radio+electronics in general is sketchy, not to mention my
>extremely little knowledge of digital stuff. TIA for any response!

A simple approach is to use Direct Digital Synthesis (DDS) integrated
circuit and a mixer. DDS chips are sold by many firms like Qualcom and
Analog Devices. You will probably need a microcontroller to interface
from your front panel controls to the DDS. If your knowledge of
electronics is sketchy, a PLL circuit can be very difficult to design
and build if you want a clean signal. A DDS does not have the
istability problems common with PLL's. Check out the Analog Devices
web page (www.analog.com) for their new DDS chip, the AD7008. It looks
like a pretty good unit.

-
Mark | KH6HPQ | mark@reson.com | Santa Barbara, CA

3598. Re: AM Modulation Scheme ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p371p$i10@newsbf02.news.aol.com>
Source record: 104830

In article <Pine.SOL.3.93.960604125040.1358G-100000@spork.callamer.com>,
Clifford Buttschardt <cbuttsch@slonet.org> writes:

>
>Steve you have a classic Heising modulation transformer used years ago.
>The higher current winding starts at the high voltage feed point. The
>center tap goes to a class A audio modulator tube. The lower current
>winding is then connected to the RF final amplifier. Great system--
>works well, can not be overmodulated! Cliff Buttschardt W6HDO/K7RR
>
Hi Cliff,
The transformer he has can also be used with the center tap connected to
HV, and a modulator tube at each end. The high current end feeds the PA
through the RF choke.

If fed the way you mentioned, modulation can easily exceed 100% on
negative peaks.
In that way it is superior to a conventional Heising choke modulator with
no dropping resistor between the modulator and the PA. The transformer
offers a 1:2 voltage step-down in the negative modulation direction.
Positive peaks are a problem with that scheme, since the HV rail is at the
end of the autotransformer. It will be impossible to reach 100% positive
modulation without distortion, unless a bypassed dropping resistor is
added between the PA and the modulator.

With the push-pull scheme (two modulator tubes with the HV going to the
CT), PA modulation is more symmetrical and 100% modulation can be
achieved in both positive and negative directions with low distortion.

73 Tom

3599. Solid state final replacing tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: Ahlgren@NCSBSR02OU.ntc.NOkia.COM
Message-ID: <1996Jun05.112537.1604.74295@ntcit-mmta7.ntc.nokia.com>
Source record: 104831

>Dave wrote:
>>
>> Hello, I am interested in converting an FT101e over to solid state
>> finals. I vaguely recall a kit for this. Has anyone done this
>> modification? What type of succes was had?
>> -Dave KB7SVP
>
>Why would you want to do this? If I understand things correctly,
>tubes are much more robust (especially at being overdriven, handling
>mismatched antennae, EMP from lightning, etc). By comparison,
>semiconductors are quite fragile.
>
>Chris.

I'm also interested in a solid state final. I have an old Uniden 2020,
which has been unuseful for years, because its tubes (2x6146B) and
transformer burned. It may be too expensive to repair the rig, so
a simple low-power solid state PA would be the solution. The receiver
works well with 12V DC, so I don't need a heavy transformer. In fact,
the rig would be nice in a field day use.

Jukka OH6SC
jukka.ahlgren@ntc.nokia.com

3600. Re: Source 2 3/8" to 2 1/2" solid fg stock?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: wvanho@infinet.com
Message-ID: <4p3kd2$587@news1.infinet.com>
Source record: 104832

PeterMarkham wrote:
:
: I am still looking for a source of 2 3/8" to 2 1/2" solid
: fiberglass rod stock, and engineering specs for the material.
: I intend to erect a Rohn HDBX, using the stock to isolate the
: tower. Any objective criticism or help, welcome.

: TIA,
: Pete/wa4hei

Pete -

Have you considered using glass blocks as insulators? Glass is very strong in compression and blocks are made in many different shapes. If the tower is guyed, not self-supporting, the legs are always in compression, never in tension. But if the HDBX is self-supporting, ignore this message.

For a guyed tower, my guess is that you could easily attach a flange at the bottom of each tower leg with a skirt shaped to confine it on top of the block. The underside of the block would have to be confined, also, so that it doesn't shift laterally.

Good luck!

Van - W8UOF
wvanho@infinet.com

3601. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p3h36$amp@crash.microserve.net>
Source record: 104833

Tom, something here doesn't make sense. Let's back up a little.

I asked:

>Once the pi network is resonated and tuned for a match to the
>load, won't the power factor be unity at the plate of the tube,
>as well as at the output of the network?

You replied:

>Not in the middle of the network.

Then I asked:

>Tom, do you mean in the middle of the inductor?

You replied:

>No, in the middle of the resonant network.

OK, help me with this. You've agreed (I think) that once the network is tuned, the power factor at the plate of the tube is unity, and the power factor at the output of the network is also unity.

Now, one end of the inductor is connected to the plate (through a blocking capacitor) and the other end is connected to the output of the network. This means that both ends of the inductor are connected to points which exhibit a power factor of unity. Under these conditions, where exactly is the VAR that's causing the problem?

73,
Jack WB3U

3602. SG9 IF Strip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <4p3nol$m03@newsbf02.news.aol.com>
Source record: 104834

Someone asked for SG-9 IF strip schematics. I have all 22 pages of this neat little board. I can't find you again., send name and address to my internet address and I'll mail

W4ZCB

johnsonhe@aol.com

3603. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <OQyPsBASgStxEw1U@ifwtech.demon.co.uk>
Source record: 104835

Kevin AstirCS "1U" KO0B wrote:

>You can connect "extra" grids of pentode and tetrode's to
>control grid and "make" a triode if you find a good deal on them.

Oh no you can't - not without risking lots of problems.

Think about it. In most tetrodes, G1 is designed to be operated negative of the cathode, and G2 several hundred volts positive. Also G1 of a tetrode is designed with a much smaller dissipation than G2, and will handle much less current. If you simply strap all available grids together and apply RF drive, G1 will get much more grive voltage and current than it needs, and G2 will get much too little. In most cases the result is an excessive drive requirement, poor intermod performance, damage to G1 and shortened tube life.

That's the simple explanation. For full details, consult the characteristics of the tube you're proposing to use, and see what happens across the whole drive cycle.

It just so happens that the most common post-war tetrodes available to amateurs (807, 813, 4-125A etc) will sort of tolerate this treatment. These are actually exceptions, but it has led to the myth that you can make a triode out of any tetrode. Well, you can't, and at modern tube prices you may be in for a nasty shock.

The classic case was the NAG linear for 2m, which some cretin "designed" using a 4CX with both grids grounded. Not a 4CX250 even, but an expensive 4CX350 which has a zero grid current rating! Tube life was a few hundred hours maximum before G1 expired, and often much shorter.

>
>Some of the Russian tubes look pretty good. It may be worth designing
>around these.
...except that they're mostly tetrodes.

Tetrodes are wonderful, but they do need well-regulated positive screen-grid supplies, even if G1 and G2 are both grounded to RF.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - anywhere.

3604. Hi-performance IF/AGC Subsystem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <4p3uef$pli@newsbf02.news.aol.com>
Source record: 104836

It's been called to my attention that the article in May 96 QST has an error pertaining to the winding data for the 9 MHz inductors. The ARRL draftsbutcher has this incorrectly listed as 8 tri-filar turns of #30 wire. The correct information is 15 turns of #30 wire, the core material and other info is correct. I HIGHLY recommend writing the author or the League for the template if you plan on building this amplifier. Not only are there no errors of commission, there's lots of additional information not contained in the article.

W4ZCB

3605. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p42m9$qqs@newsbf02.news.aol.com>
Source record: 104837

In article <4p3h36$amp@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>
>Now, one end of the inductor is connected to the plate
>(through a blocking capacitor) and the other end is connected
>to the output of the network. This means that both ends of
>the inductor are connected to points which exhibit a power
>factor of unity. Under these conditions, where exactly is the
>VAR that's causing the problem?
>
>73,
>Jack WB3U
>
>

In the circulating currents in the tank.

The capacitor does not tune out the reactance of the tube, it actually is much low than the plate impedance so the source looks like a low shunt Z capacitive source, same with the load. That's why the network transforms impedance and has selectivity.

Looking at the ends of the network doesn't describe what is going on in the center at all. Same problem with a balun feeding a reactive load.

73 Tom

3606. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p42nr$qr6@newsbf02.news.aol.com>
Source record: 104838

In article <OQyPsBASgStxEw1U@ifwtech.demon.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.demon.co.uk> writes:

>
>Tetrodes are wonderful, but they do need well-regulated positive screen-
>grid supplies, even if G1 and G2 are both grounded to RF.
>
>
>73 from Ian G3SEK

Good detail Ian, and something many people writing articles never
consider. Screen (and in cases even control grid) regulation is very
important.

Very few tetrodes make good triodes, although there are a few exceptions
that seem to work OK (like the 4-1000A and the 4CX5000A). It's luck of the
draw rather than planned sucess when one works well.

73 Tom

3607. Q: Help needed for high BW Tx/Rx design

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: jgwr@waikato.ac.nz
Message-ID: <4p444e$18g4@thebes.waikato.ac.nz>
Source record: 104839
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

As a core part of my MSc thesis project I need to transmit a digital data stream of about 380kbps (kilo-bit/sec ie approx 32Kb/sec) from a standalone device to PC. The total transmission distance will be about 5-10m. The twist is that as the device can move, there must be no physical impediment to its progress; so no wire, and its got to be small and light. Also, as the device runs on batteries, the transmission system must be low power.

I've decided to use a wideband FM radio system... but as neither I nor my supervisor know much about RF devices, I have a few unanswered questions... so here's a summary of my ideas and questions so far:

I was planning to use a transistor to 'pull' the frequency of a crystal locked oscillator in response to my digital data stream. Then frequency multiply this signal to >100MHz- which would also have increased the frequency deviation, and hence increased the recieved signal-to-noise ratio.

But I'm dubious as to weither a transistor would be able to modulate the osciallator frequency at such a high data rate (given that I was looking at a very simple oscillator circuit)...

(It would have been a useful learning exercise- and given me an excuse to learn how to use SPICE- BUT I'm running out of time :-/)

So I am wondering if a more 'direct' approach will suffice:

LPF the digital data stream, so that the high pulses become approximately sinusoidal, with a fundamental frequency (f2) of the actual _bit_ length (not the data rate!).

Feed this into one input of a double balanced mixer; the other from a local oscillator, set to the 'space' (ie data=low) frequency (f1).

HPF the mixer output, so there are only f1 and f1+f2 present.

To recieve: build an FM reciever with a bandwidth >(f1+f2)/2, tuned (ie centred) to a frequency of f1+(f1+f2)/2.

Hopefully (with a bit of luck): recieve data= transmitted data.

I realise that with this scheme I will have no control over the modulation index, and hence the transmitted signal-to-noise ratios- and probably a whole heap of other things besides (especially as I'll probably have to experiment with a couple of data rates). But in principle I can't see why it shouldn't work.

Now for a more detailed question:

I'm looking to use Philips' SA602 or SA612 DBMs, or the mixer stage of a SA615-due to size, availability, and the Philips' data books have been the most useful/understandable/comprehensive data books I've looked at so far :-)

BUT these chips are designed as reciever mixer/IFs :-(
(ie RF freq. LO x RF -> (lower freq) IF)

Will they/should they/could they work as I require?
(ie low freq. modulating signal x RF freq LO -> high freq RF)

Ok guys, where are the mistakes in the above?

What do you suggest I investigate/correct/replace?

I will _really_ appreciate any advice on the above- as I mentioned before RF is a completely new ball game to me! (ie the hair I'm losing can't be due to EM fields- 'cause I ain't got anything working yet!)

Regards

Julian Rendell

3608. Re: High performance homebrew receivers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: darrellk@internetland.net
Message-ID: <31b59879.2551709@news.internetland.net>
Source record: 104840

On Mon, 03 Jun 1996 05:42:00 -0700, CORDESSES Roland
<cordesse@opgc.univ-bpclermont.fr> wrote:

> Hi Rob
>
> Enjoyed your message about high performance homebuild receiver.
>I'm working on such a project since many months (years??).Here
>are some comments and questions on the subject :
>
Would you share your IF filter design information? I'am building a ham band receiver and have been unable to find the Collins mechanical filters that I want to use, (400Hz[5269689019] and 2500Hz[5269692010]) The band width can, of course, vary a little. Would appreciate any help on IF filters. E-Mail, if available, to darrellk@iland.net or respond here for snail mail info. Thanks. Darrell Kimball N1AOY

3609. Schematics for LA2180 from Daiwa

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: Milan <milank@merck.cz>
Message-ID: <31B59810.4BEF@merck.cz>
Source record: 104841

Hi,
does anyone have schematics of that 2m amp.? I am in urgent need of
copy of this.
Thanks in advance,

Milan, OK1DXH
milank@merck.cz

3610. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DsJ7H6.9pH@ncifcrf.gov>
Source record: 104842

In article <4or2i9$kvg@nnrp1.news.primenet.com> Cecil Moore <kg7bk@primenet.com> writes:
>: Does anyone on the net have a url for a sound, real world
>: design for the fabrication of coaxial matching lines to allow
>: use of catv al 1/2" hardline from a 52 ohm source to a 52 ohm load
>: on 144 and 440 mhz?
>

Someone sells these, I've seen them, although I don't know who.
THey're made of Cu tubing (1/2" OD) with a center shaft made of
smaller CU tubing which fits over the center conductor of the
hardline. the outer Cu tubing is held on to the hard line by a hose
clamp. Looks nasty but I know someone who has them up on his
tower and he's had no problems with them.

Joe NA3T
mack@ncifcrf.gov

3611. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DsJ7MD.9sI@ncifcrf.gov>
Source record: 104843

In article <4p28o6$ja1@blixen.aquilagroup.com> kferguson@aquilagroup.com (Kevin AstirCS "1U" KO0B) writes:
>
>I seem to recall a 10 Mbps + voice microwave link from the ARRL
>handbook.
>
>It used two of the pretty cheap gunplexers, and was full duplex.
>
>Seemed like they had an ECL feed .
>
>Given that much, you still have to add a protocol layer, and software
>to support it. Maybe you can make tcp/ip work....I don't know much
>about that, except enogh to have great respect for those who do!

It's already been done (so I'm told). Phil Karn KA9Q has
written the TCPIP stuff for this. I believe it's the same
code you can run over packet.

Joe NA3T
mack@ncifcrf.gov

3612. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4p46r4$1pl@blixen.aquilagroup.com>
Source record: 104844

Oops, I looked that article up last night.

I found it in '93 handbook.

It was designed for "only" 2 Mbaud, and used "real" dishes, albeit
snow caucer sized.

Author indicazted 10 Mbaud should be doable.

Carrier was 10 GHz, and author indicated a 24GHz version had been
built, differing only in the gunnplexers used.

-KF-

3613. Re: Frequency synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4p4811$2vu@blixen.aquilagroup.com>
Source record: 104845

> I want to
>cover 160m-10m at least, preferably all the way up to 2m or 70cm.

Aw, come on, why not go for DC to gamma coverage? <g>

Seriously though...the HF coverage is just doable.....going for VHF as well is awfully ambitious. There are many good reasons why HF, and VHF rigs come in two boxes instead of one! (Ok, there are execptions I know!)

DDS chips will go DC to ~ 20 Mhz.

You can use one to drive a PLL and get "n" times the coverage, BUT the PLL can only cover less than an octave.....(Yes this gives you n times resolution, but most DDS chips tune to fractional Hz, so no problem.)

What is generally done is to take the range (say 1-30 Mhz) and generate it at a higher shifted range, say 41-70 Mhz. This is then hetrodyned down to desired range, say by beating against a 40 Mhz crystal oscillator, and LP filtering. Doing it this way lets you use One low pass filter...other schemes require bandpass filters which must tune or be switched. All general coverage HF rigs use this approach.

A more direct way is to "pretune" the PLL to approximatelly right frequency, thus limiting range....maybe you could get a decade of range this way..but I doubt that much. 3 octaves more likely.

Yeah...complicated. If you can come up with a simple way to do what you discribe, patent it fast. This is one of those "classic" problems that a lot of people have tried to solve. All the successful approaches have involved some "back door" technique as discribed above.

-GL-, ko0b

3614. Re: Microwave oven Magnetrons

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9605058339.AA833995440@mails.imed.com>
Source record: 104846

Brain Olliver offered some interesting comments on this thread which were close to the mark, but off a little. I was likewise under the impression for a long time that 2400 MHz was chosen to be resonant at a frequency for water absorption. This isn't true. Water absorbs up in the 120 GHz region (I don't have my references on this at work) and one or 2 other regions.

2400 MHz was chosen because the FCC (and others I guess) gives certain bands for ISM (industrial, Scientific, Medical) uses. It just happens that 2400 to 2450 MHz was a convenient industrial frequency to use (and cheap!!). Food absorbs these frequencies, but just not as well as it would at the resonant frequency.

Brain's main caveats hit the bullseye. These devices typically put out 600 to 1200 watts. This can cook just about any carbon based lifeform in short order. These are not to be taken lightly. There is an entire chapter in both the ARRL Microwave books regarding safety at these frequencies. They give some idea of how far away you need to be for a given power level and frequency. It is actually a lot closer than you might imagine, but my eyes are my livelihood, so I am *VERY* careful with anything above about 144 MHz.

Now after all of the "protect you from yourself" rhetoric, there was an excellent article in Volume 1 Number 1 of Communications Quarterly magazine. It went into great detail on using a magnetron for a transmitter. Brain is probably right that finding a way to pulse modulate the beast is the best way to send information. Magnetrons are not especially frequency stable (by HF/VHF measures) so you will need an AFC circuit at the receivers unless you want to spend megabucks for the circulators to injection lock the magnetrons. Again the article addresses those issues.

I am amazed at how cheap a brand new oven magnetron is. I have seen them for sale at MCM electronics for under $100. It's a pity they are so hard to use for typical weak signal work.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

3615. Re: Solid state final replacing tubes i

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: Russell Chandler <rhchan@tsquare.com>
Message-ID: <Pine.LNX.3.90.960605110527.156B-100000@tsquare.com>
Source record: 104847

If either of you two gentlemen are successful in your endeavors
on a solid state replacement of the tube finals. I would
appeciate any follow up information.

Russell / KF4HKB

On 5 Jun 1996, Ahlgren Jukka wrote:

>
>
> >Dave wrote:
> >>
> >> Hello, I am interested in converting an FT101e over to solid state
> >> finals. I vaguely recall a kit for this. Has anyone done this
> >> modification? What type of succes was had?
> >> -Dave KB7SVP
> >>
> >Why would you want to do this? If I understand things correctly,
> >tubes are much more robust (especially at being overdriven, handling
> >mismatched antennae, EMP from lightning, etc). By comparison,
> >semiconductors are quite fragile.
> >
> >Chris.
>
> I'm also interested in a solid state final. I have an old Uniden 2020,
> which has been unuseful for years, because its tubes (2x6146B) and
> transformer burned. It may be too expensive to repair the rig, so
> a simple low-power solid state PA would be the solution. The receiver
> works well with 12V DC, so I don't need a heavy transformer. In fact,
> the rig would be nice in a field day use.
>
> Jukka OH6SC
> jukka.ahlgren@ntc.nokia.com
>
>
>
>

3616. Accuracy of Amidon toroid data?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: jathomas@netcom.com
Message-ID: <jathomasDsJ47B.DMG@netcom.com>
Source record: 104848

I'd appreciate any input on the accuracy of the toroid winding data in the Amidon literature. I decided to measure the inductance of some cores I was making for a project, with suprising results:

Core Calculated L Measured L

T-37-6 154 nh 302 nh
7 turns

T-50-6 365 nh 644 nh
10 turns

FT-50-43 23 uh 28 uh
7 turns

The tests were made with a parallel L-C circuit connected to a signal generator through a 1K resistor. Resonance was detected with a scope. I independently measured the capacitor value and checked the signal generator frequency. I can't believe the data is this far off. Any ideas?

John A. Thomas
jathomas@netcom.com
N5RZP

3617. Re: Parts data needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: kenny@erinet.com
Message-ID: <31b5b03f.7187389@news.erinet.com>
Source record: 104849

stoskopf@tri.NET (Lawrence Stoskopf) wrote:

>>Bought at Dayton new, but no specs and need working voltages:
>>
>>ANZAC MD-112-3 0.01-12 GHz mixer in big yellow box. Has input for diode bias!
>>Has schematic on case so can probably play with the bias a bit, but would be
>>nice to have the bais data
>>
>>
>>Microsource YIG OSC 10.0-18.0 GHz. MS01018-236-01
>>Needs +15 v. and probably can start with low current on tune inputs to find
>>what gets me where I want to be. Would be nice to have heater voltage.
>>
>>Thanks,
>>Lawrence E. Stoskopf, M.D.
>>N0UU
>>

You can call Microsource in Santa Rosa, CA at 707-527-7010

Good luck. I sell YIG devices, too.

Ken Gunton WB6QWF TL Distributing - Microwave and RF Components
CAGE Code 01DH7 http://www.erinet.com/kenny/microwave.html

3618. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p4e2e$k1a@crash.microserve.net>
Source record: 104850

stevem@w6yx.stanford.edu (Steve Muther) wrote:

>I have found that, in my area, most ATVers are not homebrew
>types. They can only use what is on the amateur market.

I'm disappointed to hear this. I've often thought about ATV, but my primary interest would be building the equipment and experimenting with circuits related to signal integrity. Doesn't sound like there would be many people on the air to share those interests with.

>Even if somoenoe were to employ a low level modulator, there
>are no amplifiers on the amateur market with good enough IMD
>perfromance to preserve the integrity of a VSB spectrum.

The IMD performance of the amplifier may not be as significant a factor as you believe. The 1 dB compression point of the final device(s) can be greatly reduced when split visual/aural amplification is used. The primary intermod component in video occurs as a result of the simultaneous presence of these two carriers within a single amplifier.

Also, what is the typical visual/aural ratio used in Amateur AM transmissions? U.S. broadcasters (at VHF/UHF) employ a 10 dB ratio, but this can be substantially reduced with no degradation of the recovered audio. Ratios as low as 20 dB have been shown to be entirely acceptable, and in some countries, for purposes of minimizing adjacent channel intermod, 17 dB is the legal maximum. The reduced amplitude of the aural carrier that results from these ratios not only significantly reduces intermod, it reduces the power requirement and cost of the aural amplifier chain.

At the output of the two amplifiers, either a passive combiner (directional coupler) or a tuned diplexer can be used to combine the two carriers. I suppose either of these could be homebrewed at reasonable cost, but the directional coupler is particularly appealing because it can be etched on a PC board.

I could be wrong, but I'll bet that between reducing the aural carrier level, using split visual/aural amplification, and generating low-level VSB rather than DSB, a major performance gain in Amateur AM TV would result.

>I have long been a proponent of ATV repeater systems which have
>FM inputs (which make for inexpensive transmitters and better
>picture quality)

Is this necessarily true in Amateur work? How does the linearity of a very wide bandwidth, homebrew video FM modulator and detector compare to AM modulation? Commercial FM systems are much more expensive than AM in this area, presumably due to the difficulty of achieving adequate linearity.

Regarding signal thresholds, do you happen to know what the minimum carrier/noise ratio is generally considered to be, in order to provide a "perfect" picture in FM work? I know this is a subjective measurement, but perhaps some of the commercial FM manufacturers have published ballpark figures.

73,
Jack WB3U

3619. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p4e53$k1a@crash.microserve.net>
Source record: 104851

Brian Olliver <briano@briano.demon.co.uk> wrote:

>- you don't have to observe effects of radiation to be harmed
>cancer can be a result also instant blindness can be caused,
>it is so insidious because you can't see it

At least at microwave frequencies, the eyes are the most vulnerable to damage, and the effect is usually so gradual that the individual doesn't realize what is happening until it is too late. Effectively, exposure to microwave causes the clear material in the eye (including the lens itself) to gradually cloud from the heating effect. This causes the amount of light impinging on the optic nerves to be slowly reduced (through repeated exposure), and the subject gradually becomes blind, or nearly so.

It is very likely that many persons who work around transmitting antennas or high power microwave equipment suffer from this condition, although the effect may not be sufficiently advanced for them to be aware of it.

One of the worst examples of ignorance I ever saw was a photo on the cover of a microwave journal a few years ago. In the picture, the owner of a multichannel 2.5 GHz video transmission system was shown on the roof of the building, standing next to the two omnidirectional transmit antennas. Each antenna had 14 dBi gain and was being driven by multiple 10 watt peak output amplifiers. I called their facility some time later to ask if the transmitters had been switched off for the photo, and was told they didn't do that because of the service disruption it would have caused to existing subscribers.

73,
Jack WB3U

3620. Re: Did anyone build AT-11 autotuner in Jan '96 QST?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: James Garland <garland@ohstpy.mps.ohio-state.edu>
Message-ID: <4p4i5s$d0@pacific.mps.ohio-state.edu>
Source record: 104852

I've recently completed an AT-11 kit, and offer the following comments:

1. The circuit board traces are much finer than necessary and make assembly more difficult than necessary. A very small iron and magnifying glass are essential. Deflux the board with anhydrous alcohol. Otherwise, assembly is straightforward and takes about 5-7 hours.

2. Don't buy the optional cabinet (made by Ten-Tec). The asking price is outrageous, and the cabinet is just two U-shaped pieces of metal. The company doesn't even provide the cabinet screws, mounting feet, or strain relief for the power cord. Use a Radio Shack cabinet instead.

3. Early versions of the AT-11 generated loud birdies on the upper frequency bands. The latest versions shut down the CPU after a few seconds, eliminating the problem but making the AT-11 a bit less "friendly" from an operational point of view.

4. Electrically, the AT-11 works great. It matches any reasonable load, and does so in a few seconds. The built-in SWR indicator (using LEDs) is helpful. The relays make a racket while the unit is tuning itself, but only for a second or so.

5. If you provide your own cabinet, the AT-11 is a great buy. It seems to work better than my Icom AT-180, which cost nearly $500.

73,

Jim W8ZR

3621. Re: Microwave oven Magnetrons

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: sbbrown@magnus.acs.ohio-state.edu
Message-ID: <4p4ifa$5g1@charm.magnus.acs.ohio-state.edu>
Source record: 104853

In article <9605058339.AA833995440@mails.imed.com>,
<mack@mails.imed.COM> wrote:
> I was likewise under the
>impression for a long time that 2400 MHz was chosen to be resonant at
>a frequency for water absorption. This isn't true. Water absorbs up
>in the 120 GHz region (I don't have my references on this at work)
>and one or 2 other regions.
>
>2400 MHz was chosen because the FCC (and others I guess) gives certain
>bands for ISM (industrial, Scientific, Medical) uses. It just happens
>that 2400 to 2450 MHz was a convenient industrial frequency to use
>(and cheap!!). Food absorbs these frequencies, but just not as well
>as it would at the resonant frequency.

There is indeed a vibrational mode of water molecules near 2400 MHz.
The angle formed by at the oxygen molecule oscillates, that is the

```
H H
\ /
O
```

distance between the two H's varies, with a resonance near 2400 MHz.
As the vibrating molecule bumps into other molecules, the energy in
this vibration is transferred into motion of the molecules and the
substance is heated. This is the principal mechanism by which microwave
ovens turn the RF into hot food, and it also explains why dry substances
(e.g. glass, ceramic, many plastics) aren't heated by the microwave.
If you put two glass tumblers in your oven, one full of water, one empty, in
your oven and zap them, the empty one will stay cool, confirming that
it is the water and not the glass that is absorbing the RF. The heating
is much more efficient with liquid water than water vapor, which is why
microwave cannot generally heat food above 100 C, and why you rarely hear
of them exploding from the steam pressure. (This latter might be a problem
with ovens operating at the 60 GHz or 120 GHz water absorption lines.)

In addition to the vibrational mode, I think that there is also a rotational
mode of water molecules excited by 2400 MHz. There are also relevant modes
in other molecules. Most fats are heated by microwave ovens and can be
heated to their boiling point (this is why you can char bacon but not
brown bread.) I think that the mechanism for fats also centers around
vibration of an -O- bond, e.g.

```
H C C C
\ / \... or .../ \ / \...
O O
```

but I'm not sure of this. Not all `fatty' molecules work--parafin (I mean candle wax, as I haven't experimented with kerosene) isn't heated well in a microwave oven.

It's certainly true that 2400 MHz was chosen as much for convenience as any other reason, and that's not the most efficient frequency for coupling RF into heated water, but efficiency isn't really critical in the context of an oven. It doesn't matter if your RF is absorbed on the first pass, or if it bounces around a bit first--it's in a Faraday cage, so there's no place else for it to go. It'll get absorbed eventually. However, it does mean that the magnetron has to be designed to operate in the presence of a lot of reflection (i.e. a poorly matched load.) If the RF-water coupling were too efficient, you might end up heating the vapor instead of the liquid, which would mean the oven was less effective for cooking food.

Note that the coupling at 2400 MHz is efficient enough that only about 1-2 cm of moist solid is enough to absorb all the RF. If you cook something like a roast in a microwave, only the outer layer is heated by the RF. The center will only be heated by conduction, just as with a conventional oven.

I second remarks others have made about safety considerations. Human bodies are full of water and fats. Despite the `inefficiency' of the coupling, people are also big enough that if you get in front of a 2400 MHz, all that RF is going to heat you, and 600-900 W is enough to burn you fast.

--

Steve Brown, N8HFI sbbrown@magnus.acs.ohio-state.edu
Chief Engineer, The Ohio State University Radio Observatory ("Big Ear")

3622. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960605114027.17210E-100000@spork.callamer.com>
Source record: 104854
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Good God Cecil, your are about to undo years of myth that coax is the way
to go! Most of us have been barking up a tree trying to tell the
newcomers this. I gave up long ago after redoing the one third wavelength
flat top with one sixth wavelength open wire feed all band antenna and yet
the G5RV is still considered a radiator rather than a dummy load!
Cliff Buttschardt W6HDO/K7RR

On 4 Jun 1996, Cecil A. Moore~ wrote:

> In article <31B2801E.3B54@vertex.ucls.uchicago.edu>,
> Isaac Kohn <ikohn@vertex.ucls.uchicago.edu> wrote:
>
> >Cecil, I'd love to know how exactly you did that (cap. value, wiring).
>
> Hi Isaac, The thing that makes it all possible is a Ladder-Line
> Length Selector (no, I don't sell them). Using digital techniques,
> it is possible to use 'N' relays to obtain 2^N variable feedline
> lengths in increments of 'N'. I've found one foot increments to
> be about right. So with 5 relays, one can get 0-31 ft in increments
> of one foot. Varying the length of the ladder-line is the most
> effective matching technique I know. Using that technique, you
> can bring the current maximum point to the capacitor which will
> result in a purely resistive impedance of 50 ohms, 75 ohms, 200
> ohms, 300 ohms, or 450 ohms (take your choice) all within 0.1 WL
> of the current maximum. You can use *any* balun you have available.
> You can find the current maximum with a $15 Ladder-Lizard from
> TechnoLogic Concepts.
>
> I can't post my whole application note here. It is available from
> TechnoLogic Concepts, TLCdhconsult@delphi.com I don't get a
> penny from the publishing, I just want to spread the word.
>
> Note the implications: Ladder-line is less lossy and less
> expensive than coax. Using ladder-line allows for a low-loss
> all-band HF antenna except for the balun/tuner problem.
>
> But it is easy and advisable to achieve a match on the ladder-
> line side of the balun. It can be done with a single variable
> capacitor. You don't need a commercial antenna tuner at all!
>
> If I were an HF antenna tuner manufacturer, I would start
> designing a Z0-matched relay switching network cuz that's
> all that is needed besides a $10 variable capacitor to
> beat the socks off the presently commercially available

> configurations.
>
> 73, Cecil, KG7BK, OOTC (not speaking for my employer)
>
>
>

3623. Re: soldering battery tabs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: otheral@ix.netcom.com
Message-ID: <4p4eij$2rr@dfw-ixnews8.ix.netcom.com>
Source record: 104855

In <31b431f9.405621@news.primenet.com> zawodny@primenet.com (WD8DZB
Dave Zawodny) writes:
>
>sw1gak@polaris.mindport.NET (Spencer Trombly) wrote:
>
>> Go to a welding supply shop or to a REAL hardware store and get some
>>"DUZ ALL" flux.
>>Works gud.
>
>Spencer,
>
>I MAY be wrong, but i do believe that there are 2 u's in guud.
>
>
>:)
>
>Dave
You are in fact wrong, there's only one u in gud.

73's es cul de n3tyd Al

3624. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4p4nqt$6na@shellx.best.com>
Source record: 104856

In article <4p4e2e$k1a@crash.microserve.net>,
WB3U <jackl@pinetree.microserve.com> wrote:
> stevem@w6yx.stanford.edu (Steve Muther) wrote:
>
>>I have found that, in my area, most ATVers are not homebrew
>>types. They can only use what is on the amateur market.
>
>I'm disappointed to hear this. I've often thought about ATV,
>but my primary interest would be building the equipment and
>experimenting with circuits related to signal integrity.
>Doesn't sound like there would be many people on the air to
>share those interests with.

Out of an active user base of 20 or so on our local ATV repeater
only about 3 of us are technically inclined and like to build
things. We try not to put the rest of the users asleep with
tech talk.

>
>>Even if somoenoe were to employ a low level modulator, there
>>are no amplifiers on the amateur market with good enough IMD
>>perfromance to preserve the integrity of a VSB spectrum.

>The IMD performance of the amplifier may not be as significant
>a factor as you believe. The 1 dB compression point of the
>final device(s) can be greatly reduced when split visual/aural
>amplification is used. The primary intermod component in
>video occurs as a result of the simultaneous presence of these
>two carriers within a single amplifier.
>
>Also, what is the typical visual/aural ratio used in Amateur
>AM transmissions? U.S. broadcasters (at VHF/UHF) employ a
>10 dB ratio, but this can be substantially reduced with no
>degradation of the recovered audio. Ratios as low as 20 dB
>have been shown to be entirely acceptable, and in some
>countries, for purposes of minimizing adjacent channel
>intermod, 17 dB is the legal maximum. The reduced amplitude
>of the aural carrier that results from these ratios not only
>significantly reduces intermod, it reduces the power
>requirement and cost of the aural amplifier chain.
>
>At the output of the two amplifiers, either a passive combiner
>(directional coupler) or a tuned diplexer can be used to
>combine the two carriers. I suppose either of these could be
>homebrewed at reasonable cost, but the directional coupler is

>particularly appealing because it can be etched on a PC board.
>
>I could be wrong, but I'll bet that between reducing the aural
>carrier level, using split visual/aural amplification, and
>generating low-level VSB rather than DSB, a major performance
>gain in Amateur AM TV would result.

Very good and doable ideas, but beyond the abillities and
budgets of most ATVers. The output of our repeater system is
2.4GHz VSB-AM upconverted from a Scientific Atlanta CATV
modulator and amplified to 20W with a very linear TWTA. The
Audio to Video backoff is about 15dB which seems to work
well and the undesired lower sideband product is down about
-60dB from the video carrier.

>>I have long been a proponent of ATV repeater systems which have
>>FM inputs (which make for inexpensive transmitters and better
>>picture quality)
>
>Is this necessarily true in Amateur work? How does the linearity
>of a very wide bandwidth, homebrew video FM modulator and detector
>compare to AM modulation? Commercial FM systems are much more
>expensive than AM in this area, presumably due to the difficulty
>of achieving adequate linearity.

The amateurs have adopted an FMTV standard which is similar to
commercial terrestrial FM video standards. The result is an
occupied BW of about 12 to 16MHz (not much wider than DSB-AM).
Reasonable linear VCOs are not that difficult to do over this
bandwidth at the amateur bands of 1.2GHz and above. I've even
used Gunnplexers with good success. Everything after that is
class C. No need to tweak drive levels and bias for linearity.
It gets rid of the problems with people thinking that the highest
possible wattmeter reading will result in the best picture
quality. A mistake often made by the appliance operator.

>
>Regarding signal thresholds, do you happen to know what the
>minimum carrier/noise ratio is generally considered to be,
>in order to provide a "perfect" picture in FM work? I know this
>is a subjective measurement, but perhaps some of the commercial
>FM manufacturers have published ballpark figures.

Typically for the bandwidths mentioned above, the video is snow
free at a C/N of 10 to 12dB for FMTV. Typically, in an AM TV
system, your C/N translates almost directly with the S/N observed
on the screen. The eye likes to see about 45dB S/N or better on
the CRT to say "good pictures". This translates into a big
advantage for FM. In fact, folks are running 1 or 2 watts on FM
to get perfect pictures into the repeater VS. 50W PEP or so on
AM for the same picture quality.

Hope that confuses matters further.

Steve Muther WF6R
stevem@w6yx.stanford.edu
stevem@best.com

3625. GE Mastr-Pro UHF repeater conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: tswisher@freenet.columbus.oh.us
Message-ID: <4p4sts$p8@acme.freenet.columbus.oh.us>
Source record: 104857

Does anyone have the specifics on how to convert a GE Mastr-Pro (UHF) for repeater operation? I've only got a partial manual including tune-up instructions. I've got 3 of these things (2 were free, but work) and want to use one for my UHF repeater instead of the insane conglomeration of parts I have now. Please e-mail to tomswisher@aol.com as I don't get to check here very often.

Thanks and 73,

Tom Swisher, N8GQK
tomswisher@aol.com

3626. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <4p4q93$bpi@itnews.sc.intel.com>
Source record: 104858
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Clifford Buttschardt <cbuttsch@slonet.org> wrote:
>Good God Cecil, your are about to undo years of myth that coax is the way
>to go! Most of us have been barking up a tree trying to tell the
>newcomers this. I gave up long ago after redoing the one third wavelength
>flat top with one sixth wavelength open wire feed all band antenna and yet
>the G5RV is still considered a radiator rather than a dummy load!

Hi Cliff, the subject needed an evangelist and I'm it, anointed by Mother Nature to solve the 50-ohm to ladder-line matching problem once and for all. That problem is what is keeping coax alive used with fixed balanced antennas. I have solved the problem. It is easy to do. It eliminates all the coax except the short run from the balun/choke to the transmitter. It results in a perfect SWR without a commercial antenna tuner. It allows a 102ft dipole to radiate as well as a perfectly matched coax fed 40m dipole plus it works on all the other HF bands just as well. Plus ladder-line is a lot less expensive than coax. Did I miss anything?

73, Cecil, KG7BK, OOTC (not speaking for my employer)

3627. Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4p5361$rth@peabody.colorado.edu>
Source record: 104859

>From jathomas@netcom.com Wed Jun 5 13:28:13 MDT 1996

>I'd appreciate any input on the accuracy of the toroid winding data in
>the Amidon literature. I decided to measure the inductance of some cores
>I was making for a project, with suprising results:

>Core Calculated L Measured L

>T-37-6 154 nh 302 nh
>7 turns

>T-50-6 365 nh 644 nh
>10 turns

>FT-50-43 23 uh 28 uh
>7 turns

>The tests were made with a parallel L-C circuit connected to a signal
>generator through a 1K resistor. Resonance was detected with a scope. I
>independently measured the capacitor value and checked the signal
>generator frequency. I can't believe the data is this far off. Any
>ideas?

1. If the turns are all bunched up as opposed to spread out over most of the core, the coil inductance will be higher. This will have more of an effect for low-permeability cores than for high ones, which is borne out by your results. With mu = 1, that is, air core inductors - and the tan non-magnetic toroids, it makes ALL the difference how the turns are arranged. With mu = 10,000, it hardly matters at all.

2. Caps and your wiring have series inductance; this must be added to the inductor's "own" inductance. But with small ceramics, it'd be hard to believe they have a lot. Note, though, that the fractional excess of inductance is highest for the low values, and less for the big one - you have 100% too much inductance for the first two cases, and only 20% too much for the last one.

In addition, there is always stray capacitance, and a number that is oft batted around for that is 10 pF, which needs to get added to the total. Naturally, if your caps are much bigger than this, it won't make much difference. But then, those caps might start to have non-negligible inductance.

3. Permeability is a function of flux. Some cores increase their permeability by a factor of two or more when the coils are carrying some current, as opposed to the extrapolated zero-current value. But with a 1k resistor, this doesn't seem too likely either. Any idea how much current

was in the wires? Or how many gauss was (were?) in the core?

I think you've stumbled on a genuinely good question. Some of the Handbook circuits(1) give turns, core, *and* inductance for some components, and Behold! the asserted inductance is not consistent with the stated AL value of those cores with that many turns, so something is certainly up and you have brought it to light.

(Some of the VHF transverters in my 1986 Handbook, the 28 -> 144 and 28 -> 220, I think. Again, these are small inductors, a few hundred nH.)

Bruce
N6URH

3628. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p5dv7$8ou@newsbf02.news.aol.com>
Source record: 104860

In article <4p5361$rth@peabody.colorado.edu>, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:

>2. Caps and your wiring have series inductance; this must be added to the
>inductor's "own" inductance. But with small ceramics, it'd be hard to
>believe they have a lot.

I'd worry a lot more about the capacitive loading effects of the scope probe!

73 Tom

3629. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.155.00C46CB2@azstarnet.com>
Source record: 104861

In article <DsJ7H6.9pH@ncifcrf.gov> mack@ncifcrf.gov (Joe Mack) writes:
>From: mack@ncifcrf.gov (Joe Mack)
>Subject: Re: design for 1/2" catv hardline z matching lines?
>Date: Wed, 5 Jun 1996 14:41:29 GMT

>In article <4or2i9$kvg@nnrp1.news.primenet.com> Cecil Moore <kg7bk@primenet.com>
>writes:
>>: Does anyone on the net have a url for a sound, real world
>>: design for the fabrication of coaxial matching lines to allow
>>: use of catv al 1/2" hardline from a 52 ohm source to a 52 ohm load
>>: on 144 and 440 mhz?
>>

>Someone sells these, I've seen them, although I don't know who.
>THey're made of Cu tubing (1/2" OD) with a center shaft made of
>smaller CU tubing which fits over the center conductor of the
>hardline. the outer Cu tubing is held on to the hard line by a hose
>clamp. Looks nasty but I know someone who has them up on his
>tower and he's had no problems with them.

Cecil:

I didn't get your original post. For two meters, this works... (just built one today)

Using type N connectors, construct a section of RG8/RG213 (non-foam) 7.5" long with connectors on both ends. Construct a shorted stub 10.5" long with a connector on one end. (I recommend that you put the connector on the open end :))

Use a type N tee to connect these together. The 50 ohm input is the open port on the tee. The 75 ohm port is the free end of the 7.5" section. I measured this with an HP3577 vector analyzer and a load consisting of two 150 ohm resistors in parallel across an N flange-mount connector. The return loss was in excess of 25 dB across the two meter band. At the optimum point, the return loss was >40 dB but because the load isn't this good, it's bogus.

I'm going to use two of these on a 150' run of 7/8" CATV line to my new EME antenna.

73,

Wes -- N7WS

3630. DTMF program

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: pdrunen@aol.com
Message-ID: <4p5k98$but@newsbf02.news.aol.com>
Source record: 104862

Special thanks to everyone that asked for a copy of my DTMF program. I
have
made the DTMF program available at my ftp site. You can still request it
by
e-mailing me at PDRUNEN@AOL.COM. File size is 91K.

For those not up on the program, this program decodes all 16 DTMF tones.
It requires a small and simple interface (2 chips). The interface cards
connects to the computer's parallel printer port.

The file dtmf_v11.exe contains the program which is complete and shareware
with the interface card schematic in the GIF viewing format.

To get there ftp to users.aol.com

login as "ftp"
Password as "your e-mail address"
then cd /pdrunen
then cd /dtmf
get dtmf_v11.exe.

You will also find a really nice windows based GIF viewer, VUGRAF13.ZIP
for
the taking.

Thanks!

3631. Re: Frequency synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: Jeff Bateman <jeffbat3@frontiernet.net>
Message-ID: <31B6058E.4CF1@frontiernet.net>
Source record: 104863

I have a sketchy idea of digital electronics. I have a pc fm card made
by Revel. Any chance it can be changed in anyway to receive HF ?
I know fm modulation is diff than am. I am guessing it would be more
than just locating the pll chip and changing a capacitor or resistance
value. Or can it ?
Thanks
Jeff Bateman

3632. Re: WANTED: Panel Meter for Heath SWR Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: frank.dinger@zetnet.co.uk
Message-ID: <4p79sh$vjr@roch.zetnet.co.uk>
Source record: 104864

In message <4p1f7u$icf@dfw-ixnews6.ix.netcom.com>
mvi@ix.netcom.com(John R. Bosco) writes:

> An on-air acquantance has a Heathkit HM-2102 SWR meter with a sticky
> meter movement. He has asked me to post a request to possibly locate a
> source for a replacement panel meter.

> As an alternative, he would like to hear from anyone that may have a
> manual for the HM-2102 and could provide the value for the meter so
> that he may be able to replace it with an aftermarket part. Of course,
> he would prefer a Heath replacement.

> Any help that you can provide will be appreciated,

> 73,

> John, KB2YJH

====== response GM0CSZ / KN6WH
John , Maybe the meter sticks because pointer touches glass window .
Suggest ,first to remove meter from window cover . If still sticky
apply a current adjustable between 0 - 500 microAmp by means of a
variable power supply say 0-12 V (not critical) and a potmeter in
series with a fixed resistor .Put meter to be tested in series with a
digital multimeter with a low DC current range ,say 0-1 mA or an
analogue 0-500 microAmp meter and a digital voltmeter across the
meter under test. Apply a 50 microamp current to the circuit and if
necessary tap meter under test , while increasing the current until
meter under test indicates full scale deflection . The corresponding
current can now be read and the meter's internal resistance be
calculated (Ohm's law). A replacement meter can then be specified .
Succes with this very basic test.
It could well be that the meter pointer is bent and that the problem
is just mechanical.

Frank Dinger , Inver by Tain , Ross-shire IV20 1RX - Scotland
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

3633. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <JfIHaIAyGMtxEwU0@briano.demon.co.uk>
Source record: 104925
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <4okuue$9st@mtinsc01-mgt.ops.worldnet.att.net>, Chuck Bland
<BlandRanch@worldnet.att.net> writes
>jackl@pinetree.microserve.com (WB3U) wrote:
>> charlie@netdepot.com (Charlie Fortner) wrote:
>>
>>>I'm planning to put up a 250 ft (approx. full wave 80m) wire
>>>dipole and feed it with ladder line for use as a multiband antenna.
>>
>>What method are you planning to use to drive the ladder line? A
>>balun will probably be less than satisfactory due to the high
>>impedances involved on some bands.
>>
>>73,
>>Jack WB3U
>
>A link-coupled tuner would do the job quite nicely. Sure, it may set
>technology back about 30 years, but the system would be better than a
>"mere balun".
>
>Chuck - n6dbt
>
>

-i don't think a full wave dipole will radiate "check it out"
maximum voltage will be at the centre of the half conductors
thus cancelling each other-
Brian Olliver

3634. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <PfIGKHAGDMtxEw1O@briano.demon.co.uk>
Source record: 104926

In article <4oi13i$163@zombie.nortel.net>, MIKE STEWART
<mikestewart@4YOU.NET> writes
>
> hello,
>
>A co-worker and I are working on using the magnatron from a microwave to
>transmit back and forth to each other. but we've run into a problem when it
>comes to modulating the magnatron. if anyone has any info on this subject
>please reply..
>
> thanks,
> mike stewart
>mikestewart@4you.net

-hello
there's one thing about the net it is always entertaining
do you intend to kill your friend or just toast him a little
please be careful the frequency of microwave ovens is chosen
so that it will impart maximum power into anything containing water
i think at the last count the average person was 96% water

well if your still intent it can be done the microwave oven magnetron
is however a little crude, if you want simple comms arrange for the
high voltage to be switched on and off at a audio freq say 1000hz
then key that oscillator "bingo" morse
if you want audio as in speech then you need to read up on pulse width
modulation techniques and vary the time period that your magnetron is
switched on and off in proportion to the audio content

for effective communications on microwave you only need 5-10 mW for
up to 20 miles your magnetron is going to give 100 to 1200 Watts
it's a bit of overkill if you'll excuse the pun <_>
- you don't have to observe effects of radiation to be harmed cancer can
be a result also instant blindness can be caused, it is so insidious because
you can't see it

you could achieve the same comms with a sparking coil from a car and in com-
plete safety it just bites a little
have fun

Brian Olliver

3635. GE Porta-Mobile 6m conversion.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4p2mvj$78s@dfw-ixnews6.ix.netcom.com>
Source record: 104927

I had the pleasure of picking up two GE Porta-Mobil rigs, you know, the ones that look like a skinny lunch box with the handle on top. Anyway they both work and are on 44.720, anyone know what needs to be done to get these rigs on 52.525?

I know how to get the freq I want and can certainly retune the inductors but are there component changes required?
I planned on just putting in some new rocks (as opposed to building up a synthisizer) and using them for Simplex.
Any input is welcome.

Tim ka8ddz

3636. VHF mail list?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-05 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4p2n7t$oql@sjx-ixn2.ix.netcom.com>
Source record: 104928

Does anyone have the address/subscribe info for the VHF group mail list?

Muchas gracias,

Tim ka8ddz

3637. Re: ? Triode Grid Current

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <31B68CD3.7659@rcru.rl.ac.uk>
Source record: 104779

Koellner, Guenter wrote:
>
> Hello all,
>
> I finished a W6PO style amplifier for 144 MHz. It uses a russian GS35B tube.
> Most interesting is that I replaced the ceramic capacitors at the anode by a
> coaxial tube-in-tube construction at the anode resonator itself.
>
> First test results are promising. At 6W drive and 2200V anode voltage I got
> 120W out and thats the expected 13dB gain. At 3500V anode voltage i got
> 6Win->180Wout and 20Win->500W out. I couldn't test more as i did not have
> more input power.
>

I think I have already seen an answer to your Grid current question, it
is RF. What I am more interested in is your GS35B design. I have one of
these as well, and 100W of drive. But I do not have the metalwork.

I suggest you run it at under 3000V. 2200V sounds better. You need
a 100W of drive to get the full 1500+ watts the GS35B is capable of.

Mike

3638. Re: Accuracy of Amidon toroid data?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4p67op$ies@nadine.teleport.com>
Source record: 104780

In article <jathomasDsJ47B.DMG@netcom.com>,
jathomas@netcom.com (John A. Thomas) wrote:
>I'd appreciate any input on the accuracy of the toroid winding data in the
>Amidon literature. I decided to measure the inductance of some cores I
>was making for a project, with suprising results:

>. . .

>The tests were made with a parallel L-C circuit connected to a signal
>generator through a 1K resistor. Resonance was detected with a scope. I
>independently measured the capacitor value and checked the signal
>generator frequency. I can't believe the data is this far off. Any
ideas?

Did you account for the input capacitance of the scope?

Roy Lewallen, W7EL

3639. Speaking of the ARRL Handbook...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Rick Miller <rdmiller@execpc.com>
Message-ID: <31B6B627.84A@execpc.com>
Source record: 104781

Hi!

I was just looking over the 1996 ARRL Handbook description on their
web pages... it mentioned a VLF transceiver that didn't require a
license.

Where might I find more details about this equipment and this band?
I'd like to give it a try if the equipment isn't overly involved.
(Yes, I know the antenna will be big.)

Didn't "Radio Electronics" have an article like this, where you could
build a VLF transmitter out of a quad-NAND gate and some BJTs?

It (the ARRL ad) also mentioned a "QRP Transceiver" and a "QRP transmitter".
What are those? I don't know that Q-sign.

Rick Miller
(Was KA9JHH 17 years ago, now I'll finally be going for Tech. Plus in July.)

3640. Is RG-389/U (military stuff) Any Good

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <4p6gkr$31u@buffnet2.buffnet.net>
Source record: 104782

Greetings,

Came across some military surplus coax recently. It is labled
RG-289/U.
Uses humongo connectors but N adapters are available. Lengths are 40'.

Is this stuff 50 ohms?
What are the loss characteristics at 432 & 1296 ?

Thanks

Dave

3641. Re: PCB Manufactures in UK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: 100317.1432@compuserve.com
Message-ID: <4p6hui$sle@dub-news-svc-5.compuserve.com>
Source record: 104783

Matthew Bailey <matt@kascade.demon.co.uk> wrote:

>I am looking for a company in the UK to make a PCB for me.

Try looking in your local Yellow Pages under Printed Circuit
Manufacturers.

73 de Ian, G0TCD.

Packet: G0TCD@GB7MSW.#33.GBR.EU
Amprnet: g0tcd@g0tcd.ampr,org [44.131.166.23]
Email: 100317.1432@compuserve.com

3642. Re: 3CX5000A7

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <31b6bcc5.530270@news.santafe.edu>
Source record: 104784

jpotter@jpaw.com (Jim Potter) wrote:

>I used a 3CPX5000A7 to make a 2 MHz pulsed amplifier that put out 50
>kW peak. I used power MOSFETs to switch the cathode bias at 2 MHz.
>TTL in - 50 kW out!

Too much late night websurfing. I meant to say 3CPX1500A7. But, I did
get 50 kW peak output.

de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com/jpaw/

3643. Info WANTED! Kenwood TS440s to PC RS232

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: PAUL MULLINER <PAUL@mulliner.demon.co.uk>
Message-ID: <378283471wnr@mulliner.demon.co.uk>
Source record: 104785

Hi
Do you have any infomation on building a homebrew rs 232 interface for a
Kenwwod TS440s. I have located the Kenwood bits to do the job but as
always I'm sure we can come up with a cheaper alternative!
Also any recomendation as to which S/W to run once I've built the
interface would be welcome. 73's for now PAUL.....
--
****
* Paul Mulliner *
* Barnsley, Yorkshire, UK *
* paul@mulliner.demon.co.uk *
****

3644. Re: Info WANTED! Kenwood TS440s to PC RS232

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: w9sz@prairienet.org
Message-ID: <4p6mgn$h79@vixen.cso.uiuc.edu>
Source record: 104786

In a previous article, PAUL@mulliner.demon.co.uk (PAUL MULLINER) says:

>Hi
>Do you have any infomation on building a homebrew rs 232 interface for a
>Kenwwod TS440s. I have located the Kenwood bits to do the job but as
>always I'm sure we can come up with a cheaper alternative!
>Also any recomendation as to which S/W to run once I've built the
>interface would be welcome. 73's for now PAUL...........
>--
>*****************************
>* Paul Mulliner *
>* Barnsley, Yorkshire, UK *
>* paul@mulliner.demon.co.uk *
>*****************************
>
>

I would also like to have this info. I just bought a TS-440S and would
like to interface it to my computer (I even have the software already!)

Zack W9SZ
w9sz@prairienet.org

3645. Speaking of the ARRL Handbook...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: ccart@mnsinc.com
Message-ID: <4p6ot4$ji2@news15.erols.com>
Source record: 104787

I believe there is a "no-license" band somewhere around 160KHz, seems to me you had to be 1W or less, maybe 100mw or less, maybe CW only, no more than 50' of antenna and leadline combined. This is all long ago and very hazy. I think it had something to do with power companies wanting meters to report on their own over power lines. With LORAN and all the other VLF stuff it might be difficult to make contact with only 100mw and a VERY inefficient antenna. Hey wait a minute, isn't that what amateur radio was about? :)

And QRP is low power (under 5W), but I'm not sure if that's PEP or input power.

--
-- Christopher Cartwright, Tech. Engineer | ...our chief weapons are fear,
-- Voice 301.295.0809 | fear and surprise, and nice
-- Mail dsc3cjc@imc220.med.navy.mil | red uniforms, oh damn!!
-- ccart@erols.com | -- Monty Python

3646. Re: Microwave oven Magnetrons

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4p6qdc$rv@news.calweb.com>
Source record: 104788

mack@mails.imed.COM wrote:
>
>
Good safty info. snipped

>
>I am amazed at how cheap a brand new oven magnetron is. I have seen
>them for sale at MCM electronics for under $100. It's a pity they are
>so hard to use for typical weak signal work.
>
>Ray Mack
>WD5IFS
>mack@mails.imed.com
>Friendswood (Houston), TX

They are hard to use for typical weak signal work but I think
Non typical weak signal work is still possable.

Use a wideband receiver and then use digital signal processing to dig
the recovered data from the noise. This should result in the equivalent
of a narrow band receiver.

I would like to try this but other projects come first.

Bill K7NOM

3647. Re: CMOS Keyer II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <31B72197.3105@erols.com>
Source record: 104789
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dio wrote:
>
> Looking for the CMOS Keyer II kit.
> Anyone dealt with them?
> Prices?
> Do they have a tele#?
>

I don't have details on telephone number. Will e-mail it to you when
I get home. I built one of their keyers last year. Works pretty
well. I think the kit was about $45 and I added a case, speaker
and buttons.

GL ES 73,

DE AB3A
Jake Brodsky
"Beware of the massive impossible!"

3648. Icom HM-23 mic pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Dj Merrill <deej@vsl.ist.ucf.edu>
Message-ID: <31B6FBCA.167E@vsl.ist.ucf.edu>
Source record: 104790

Anyone have the pinout for an Icom HM-23 mic, or one of the
Icom radios that it plugs into?

Thanks,

-Dj

--

Dj Merrill Institute for Simulation and
Training / UCF
Associate in Simulation 3280 Progress Drive, Orlando, FL
32826
deej@vsl.ist.ucf.edu - N1JOV (407) 658-5513 / Fax: (407) 658-5059

"BSD: The way Unix should be"

3649. Re: Spelling lesson

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9605068340.AA834084946@mails.imed.com>
Source record: 104791

This is hopefully the only *noise* I will add to the list:

You are both right!!

English is know for its dialects (Australian, British, American,
Texan, etc.) gud is the Yankee spelling. Here in the South we spell
it like it's pronounced i.e guud.

So there!

Ray Mack
WD5IFS
mack@mails.imed.com

3650. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4p70do$vp3@blixen.aquilagroup.com>
Source record: 104792

"Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk> wrote:

>Kevin AstirCS "1U" KO0B wrote:

>>You can connect "extra" grids of pentode and tetrode's to
>>control grid and "make" a triode if you find a good deal on them.

>Oh no you can't - not without risking lots of problems.

<Detailed and probably accurate discription of said problems deleated>

I stand corrected, Ian. I made the mistake of confusing common (not so these days) practice with the right way of doing things.

Don't suppose I could convice anybody that I was just testing them? <g>

The Handbook circuit that did this dissappeared several years ago, actually I think they also had a 250W Novice job that tied all the grids on a pair of 6KD6 sweep tube common.

Thanks for the useful info.

BTW, last QST (or was it two months back.....temporally challenged) had an article on retrofitting a "obsolete" commercial amp (Dentron was it?) with a Russian tetrode. Common cathode setup does have advantage of simpler, broad band input circuit. Might easily be worth trouble of screen supply if you were wanting to cover many bands. Also I suspect many would happily accept that extra supply to avoid mechanical coupling of input & output switching circuitry, Even if only going for 3-4 band coverage..

73, ko0b

3651. Re: Accuracy of Amidon toroid data?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p72ci$i3t@crash.microserve.net>
Source record: 104793

jathomas@netcom.com (John A. Thomas) wrote:

>I'd appreciate any input on the accuracy of the toroid winding
>data in the Amidon literature.

You'll see less of a discrepancy between the data and your test
results if you use a GDO or similar instrument.

73,
Jack WB3U

3652. Re: Frequency synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4p7aqd$6cg@shellx.best.com>
Source record: 104794

In article <31B6058E.4CF1@frontiernet.net>,
Jeff Bateman <jeffbat3@frontiernet.net> wrote:
>I have a sketchy idea of digital electronics. I have a pc fm card made
>by Revel. Any chance it can be changed in anyway to receive HF ?
>I know fm modulation is diff than am. I am guessing it would be more
>than just locating the pll chip and changing a capacitor or resistance
>value. Or can it ?
>Thanks
>Jeff Bateman
>

I don't think this would be a very practical thing to consider. A
better idea might be to find an AM radio card (if there is one)
and build a converter in front of it. Sort of like the HF to AM
broadcast converters made for cars. I think MFJ had one. You
would then be able to receive HF AM broadcasts. If you built
a BFO, you could then receive SSB if the tuning step size was
fine enough on the PC card.

I have not seen an AM card for the pc, possibly because of the
large amounts of RFI emitted by the PC in that frequency range.
I think an AM card would certainly need an antenna mounted away
from the PC to be useful.

Good Luck

Steve Muther WF6R

3653. Re: CMOS Keyer II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4p7egm$ouv@blixen.aquilagroup.com>
Source record: 104795

Seems like there is a newer version (CSK III?) with more memory, and non-volatile at that.

Been meaning to pick up a kit for this. If anyone at Idiom is eves-dropping, please e-mail me, and I will call and buy.

3654. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <31B760A2.1E3F@erols.com>
Source record: 104796
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

There was a good article in QST magazine for a generic syncrounous detecter. I built one for an FRG-100 and it worked pretty well.

Cost was more than what Tom, KI4N described, but boy did it sound good! BTW Tom, have you actually built this thing? If so, what was the performance and dynamic range like?

Jake Brodsky, AB3A
"Beware of the massive impossible!"

3655. Microwave ovens - anyone know the HT ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jun6.093421.24483@ucl.ac.uk>
Source record: 104797

Has anyone ever measured the HT of a microwave oven ? I see the replacement magnetrons in RS seem to have a maximum of 4.1 kV, but I was hoping that a scrap microwave might be a source of an HT tranny for a 4CX250 or 350. Perhaps they are all around 4 kV, in which case I'll have to look elsewhere. Anyone got a 1500 to 2100 V tranny they want to sell ?

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3656. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p7i42$9o1@newsbf02.news.aol.com>
Source record: 104798

In article <4p70do$vp3@blixen.aquilagroup.com>, kferguson@aquilagroup.com (Kevin AstirCS "1U" KO0B) writes:

>BTW, last QST (or was it two months back.....temporally challenged)
>had an article on retrofitting a "obsolete" commercial amp (Dentron
>was it?) with a Russian tetrode. Common cathode setup does have
>advantage of simpler, broad band input circuit. Might easily be worth
>trouble of screen supply if you were wanting to cover many bands.
>Also I suspect many would happily accept that extra supply to avoid
>mechanical coupling of input & output switching circuitry, Even if
>only going for 3-4 band coverage..
>
>73, ko0b

The only problem with that is the basic circuit was poorly designed. The screen needs much better regulation, and the grid resistor value was poorly selected.

Also it is important to remember AB1 tetrodes are much more critical to adjust and operate than triodes. The likelyhood of having a nasty signal increases when tetrodes are used.

73 Tom

3657. 5GHz Microwave TWTs FOR SALE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: jthienel@postoffice.ptd.net
Message-ID: <4p7i2r$fbs@ns2.ptd.net>
Source record: 104799

I have two 5.8 to 7.2 GHz TWTs for sale. Condition is new in box!
They are rated for 18 watts output, 35 dB gain at 10 watts output.
Model W5/4GC mfg. by STC Defence Systems.
Price is best offer. Please e-mail to jthienel@postoffice.ptd.net

Jay Thienel

3658. Re: How do you make a 7 ns. delay line @ 1

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jun6.104210.26246@ucl.ac.uk>
Source record: 104800

> >Somebody here might know how to do this. I want to make about a
> >7ns delay line inside an inch square and a quarter inch high on a
> >PCB. Frequency bandwidth is 140-150 Mhz and any Z will work. I'm
> >thinking of the distributed L-C type.
> >
> >Is there any information about how to do this?

1) You might be able to find a piece of coax small enough - but perhaps not.
2) You dont say the centre frequcy. Is it 145 MHz and you want 10 MHz
bandwidth or is it many GHz and you want a BW of 140 or 150 MHz ? A Low pass filter, might help, as its phase delay is 45 deg at the 3 dB point, so with approiate
choice of cutoff, it will do.
3) Etch your own transmission line ? Space might be too small to ensure adequate
isolation between different bits.
4) Build one with a bipolar tranny. Drive the base. The emmiter and collector are
180 deg out of phase. Put a series L and C between the emmiter and collector. The
junction of L and C can then be varied over nearly 180 deg.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3659. Re: Is RG-389/U (military stuff) Any Good

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: dkelly@hiwaay.net
Message-ID: <dkelly-0606961705300001@news.hiwaay.net>
Source record: 104801

In article <4p6gkr$31u@buffnet2.buffnet.net>, daveb@buffnet.net (david james) wrote:

> Greetings,
>
> Came across some military surplus coax recently. It is labled
> RG-289/U.
> Uses humongo connectors but N adapters are available. Lengths are 40'.
>
> Is this stuff 50 ohms?

Its supposed to be.

> What are the loss characteristics at 432 & 1296 ?

Sounds like some stuff a friend and I bought in Dayton. Right down to the humongous connectors already attached. With stainless steel braid strain reliefs to hang the cable ends from? Made by Times Wire & Cable? (now known as Times Microwave)

Can you get more for a good price? I got N adapters with mine, but would like to more about what I'm adapting from.

The seller at Dayton said it was good for 0.55db/100' loss at 2m, and that's what I measured on mine. Got about 1.6db/100' at 440, more than I would have expected but I don't really trust my What Meter that was used.

--
David Kelly N4HHE, n4hhe@amsat.org, dkelly@hiwaay.net
==========
To invent, you need a good imagination and a pile of junk.
- Thomas Edison

3660. Re: Speaking of the ARRL Handbook...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960606151930.2384A-100000@spork.callamer.com>
Source record: 104802

Hi Rick here is a web page that will help you with the 1750 meter
band: http://users.aol.com/lwcanews/
73 Cliff W6HDO

On Thu, 6 Jun 1996, Rick Miller wrote:

> Hi!
>
> I was just looking over the 1996 ARRL Handbook description on their
> web pages... it mentioned a VLF transceiver that didn't require a
> license.
>
> Where might I find more details about this equipment and this band?
> I'd like to give it a try if the equipment isn't overly involved.
> (Yes, I know the antenna will be big.)
>
> Didn't "Radio Electronics" have an article like this, where you could
> build a VLF transmitter out of a quad-NAND gate and some BJTs?
>
> It (the ARRL ad) also mentioned a "QRP Transceiver" and a "QRP transmitter".
> What are those? I don't know that Q-sign.
>
> Rick Miller
> (Was KA9JHH 17 years ago, now I'll finally be going for Tech. Plus in July.)
>
>

3661. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p7o5m$ce6@newsbf02.news.aol.com>
Source record: 104803

Hi Jack,

In article <4p600e$97g@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>Well, you lost me here, so let me ask two questions. When the
>network is terminated in a 50 ohm resistive load and tuned to
>resonance, will it present a resistive load to the tube?

Close to it, even if the load is reactive.

The a proprerly tuned network compensates for the reactance at the anode (and load), so the impedance looking into the network will actually be the complex conjugate of the RF source impedance as average over the entire operating cycle. This is true only when the network is tuned for maximum output (and maximum efficiency) under a given set of operating parameters.

>Also, if the network presents a resistive load to the tube,
>will the the power factor at the input to the Pi be unity?

Sure, but the power factor in the network itself will not be unity.

>What I'm looking at are the two ends of the inductor. To me,
>they appear to be the same two physical points as the ends of
>the network. Because of this, I'm having a little difficulty
>distinguishing between the center of the network and the center
>of the inductor. You've said they're not the same, so can you
>please tell me exactly what point in a Pi network you're
>referring to when you say "center of the network"?

Between the components that have reactance. Look at the example of a generator in series with a resonant coil and capacitor. We can excite the circuit and measure the voltage across the generator, let's say it is one volt. If the Q of the circuit is 100 the coil will have 100 volts across it, and the capacitor the same.

If we put the coil and capacior in parallel across the generator, the current will be 100 times the excitation current for a system Q of 100. (That's how Q meters work.)

So we can have a source, a black box, and a load. Even if the black box looks like a pure resistance at both ends (at one frequency), the current and voltage inside that box can be almost anything.

While the formula Amidon uses always works (as long as distributed capacitance in the winding is neglgb), we have to be careful we really know the voltage across the coil. It may not be what we think it is.

For example, you used the example based (I think) on a given supply voltage feeding a tube, and a given plate current, and a given output power. But the peak anode voltage can be many times the dc supply voltage when the amplifier is not conjugately matched (or over coupled) to the load. In this case the loaded Q of the tank will rise, and the heating will also rise. If we measure the RF anode voltage we would see it rise, even though the dc supply remained fixed and the output power decreased.

So if we KNEW the anode RF voltage was 1000 volts RMS, and the load voltage was 100 volts, we would know the RMS voltage across the inductor was between 900 and 1100 volts. In the case of a pi-network it would be very close to 1100 volts. But we better be sure we are talking about the RF anode voltage, and not the supply rail. In this case, the supply rail would likely be around 500 volts for a conjugately matched class B PA.

Obviously the inductor would get hotter or cooler if the tank were mistuned, so the correct core size only applies at the correct tuning condition.

That is why tank circuits arc and connections melt in some tuners and amplifiers. Power handling of a given core is reduced as loaded Q of the circuit increases.

>Also, I'm curious about the role of circulating current in this
>situation. The Amidon formula only requires that we know the
>RMS voltage across the inductor in order to calculate flux
>density. Given that fact, why would (for instance) 100 V RMS
>across the inductor cause greater flux density when the coil is
>in a Pi network, than the same 100 V in any other situation? If
>the voltage impressed on the coil is the same, I don't understand
>how more or less current can flow through the winding. Is it
>possible you're saying (in effect) that the voltage I've
>calculated across the coil, based on the operating impedance of
>the tube and the output of the amplifier, does not reflect the
>RMS voltage that's actually present?

Yes, that's what I am saying. The voltage you might expect, by simple rules of reasoning, may not be correct. Textbooks sometimes imply peak voltage can not exceed two times the dc rail in a PA. That is untrue, unless the class of operation is confined to class B or A. When the amplifier is improperly loaded the class of operation, as defined by the conduction angle of the output device, always changes. The peak voltage can soar to many times the supply rail; the coil will overheat, the capacitors, bandswitch, or output device will arc.

>Incidentally, I found a circuit like this in the '78 Handbook.
>It's a 160M transverter with a pair of 6146's and it uses a
>T-200-2 toroid core as the basis of the Pi network inductor.
>I calculated the flux density using the same technique as in
>my post, but with the parameters of this specific circuit. The
>results agreed with the construction of the toroid shown in the
>article, that is, a T-200 core appeared to be the appropriate
>size for the amplifier.

I assume you did a Chaffe analysis to determine the RMS voltage and current at the anode of the tube, and assumed the voltage there was out of phase with the load voltage? If so, that calculation is correct for that operating point. BUT.... if the loading capacitor is increased in value and the source no longer conjugately matched to the load, the voltage (and hence flux density and heating) will soar.

My point, that I may not have made well because I didn't want to get lengthy, was that things aren't as simple as the dc anode voltage and current as related to the load voltage and current. Lots of things go on.

While voltage as related to turns and given core parameters will ALWAYS work out correctly, we just need be sure the voltage across the coil is the voltage we expect at first glance. In the case of a balun, even though the load voltage is known, the voltage across the winding may be quite different than we expect.

I just wanted to point this out.

73 Tom

3662. Re: CMOS Keyer II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <4p7n4r$19a@excelsior.flash.net>
Source record: 104804
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dio <diomar@electriciti.com> wrote:

>Looking for the CMOS Keyer II kit.

>I have an address of:
>Idiom Press
>Box 1025
>Geyserville, CA 95441

>Anyone dealt with them?
>Prices?
>Do they have a tele#?

Dio,
Not sure about the phone number, but they advertise in QST every month, a little 1/2 by 1" ad, sometimes hard to find... It's worth the trouble to find them. I've been using one for about 3 years and still love it! There is a new version with a few improvements and 6 memories instead of 4. I think it's ten more bux. Go for it, you'll like it. It only took me about an hour to build.
73,
Kerry Miller, WD5ABC

3663. A quick soure of valve data sheets.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jun6.102735.39207@ucl.ac.uk>
Source record: 104805

Just a note that the Svetlana Web pages at svetlana.com have full data sheets for a number of tubes you can download. Perhaps the most common tube amateurs use (4CX250B) and the 350 are not yet available, but there is a fair selection, especially of larger tubes. The web pages say the others will be available soon.

They also indicate some applications notes will be available soon.

Shame Eimac dont do that - there is not much at eimac.com.

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3664. ! June 96 CD-ROM Available !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <NEWTNews.834118688.6173.amsoft@dx4_120>
Source record: 104806
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

AmSoft announces the June 1996 release of its CD-ROM "The World of
Ham Radio". This CD-ROM contains the World's largest collection
of amateur radio, electronic, and engineering software, plus the
most recent FCC amateur radio license database available on CD-ROM.
The current FCC database includes calls issued up to 22 April 1996.
This software collection is the best available anywhere in the World
for electronics, engineering, and the hobby of Amateur Radio. Over
20,000 files and programs for the hobbyist or professional. Stop
by our WWW SITE: http://hamster.ivey.uwo.ca:80/~amsoft/ and see.

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lowest price for any CD-ROM offering these services.

TELEPHONE: 717-938-8249 FAX: 717-938-6767
or send E-MAIL: amsoft@epix.net

3665. Re: Frequency synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Jeff Bateman <jeffbat3@frontiernet.net>
Message-ID: <31B7802F.1970@frontiernet.net>
Source record: 104807

Rfi. would probally ruin all the Am fun. I have heard af a am/fm card for the pc but I have not seen it. I have a pk232 that adds its own noise to the line when I copy rtty or other digital modes. (Yes I know there is a fix for the pk232 noise problem, I just have not sat down and soldered in the caps yet :)) As for my pc fm card.. the noise is not noticeable.. the antenna stinks that came with it. To bad you don't think it's feasible to chop up the fm card to receive shortwave. I also know about a shortwave converter that links in through the antler line sold by Ramsey electronics, I have the privledge of living 20 minutes from them.
Ok If I cant chop up my pc card how about My pro 2026.. How come I don't see a PC interface supporting the scanner

Just full of questions aint I :)
Jeff Bateman Kb2mha

3666. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4p7imi$amf@sjx-ixn6.ix.netcom.com>
Source record: 104808

>First off, you'll need a license if you're going to transmit
>anything. It'll never work on CB, so you'll have to study up
>a bit and get your ham license. (No Morse nec, since in
>this case you'd only be using vhf.)
>
>Then look at a subject called "Packet Radio"
>However, due the large bandwidth needed, switching
>speeds are rather limited. Can you live with 1200 baud?
>
>Uncle Brian VK6BQN
>
>
If you want to do it right, buy 902 Mhz Spread Spectrum Lan cards, runs about 2.5 Mb/sec and has a range of a couple of miles, and requires no license. A bit costly though.

This is the type of technology I was hoping the new breed of Ham would bring to the hobby, but it looks like it has to be from commercial vendors right now.

KI5GY Glenn Sparks

3667. Re: Speaking of the ARRL Handbook...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.157.013E6934@azstarnet.com>
Source record: 104809

In article <31B6B627.84A@execpc.com> Rick Miller <rdmiller@execpc.com> writes:
>From: Rick Miller <rdmiller@execpc.com>
>Subject: Speaking of the ARRL Handbook...
>Date: Thu, 06 Jun 1996 05:42:47 -0500

>Hi!

>I was just looking over the 1996 ARRL Handbook description on their
>web pages... it mentioned a VLF transceiver that didn't require a
>license.

>Where might I find more details about this equipment and this band?
>I'd like to give it a try if the equipment isn't overly involved.
>(Yes, I know the antenna will be big.)

>Didn't "Radio Electronics" have an article like this, where you could
>build a VLF transmitter out of a quad-NAND gate and some BJTs?

>It (the ARRL ad) also mentioned a "QRP Transceiver" and a "QRP transmitter".
>What are those? I don't know that Q-sign.

>Rick Miller
>(Was KA9JHH 17 years ago, now I'll finally be going for Tech. Plus in July.)

I don't have the book but...

QRP means "reduce power" but has been bastardized to indicate using low power,
whatever that means. Usually less than ten watts.

On the VLF band, you are limited to (as I recall) 5W and an antenna length of
50' INCLUDING the transmission line.

Good luck on the ticket.

73, Wes -- N7WS

3668. How do i calculate where i should tap my coil

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: J&#65533;rgen J&#65533;nsson <Jorgen.Jonsson@uddeholm.se>
Message-ID: <4p6lf0$lle@Steinlager.tip.net>
Source record: 104810

For example if i make an coil for a preamplifier and i want to
use an tuned coil for only that frequency
how can i calculate where to tap my coil

please send answer to me :jorgen.jonsson@uddeholm.se

3669. Laser Link Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: kj7az@coffey.com
Message-ID: <4p57ap$22u@news.tcd.net>
Source record: 104865

Has anyone tried building a laser link between two repeater sites and what where the results. We are concidering setting up a link between a 10 meter transmitter and a 10 meter reciever at about 7 miles apart as the crow flies. The 10 meter reciever will be connected into the local 2 meter repeater and the laser will be used to communicate to the remoter 10 meter transmitter.

73
Tim KJ7AZ

Beacon on 28.284.

3670. Empirical HF Receiver (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.262.000C1C46@TRL.OZ.AU>
Source record: 104866

AN EMPIRICAL APPROACH TO BUILDING AN HF RECEIVER
(COMPUTAROCK II)

What follows appeared in the Australian Journal- "Amateur Radio" in October 1994, and was intended to encourage experimenters to have a crack at building a workable HF receiver. By posting it here, the author intends no criticism of the material contained in the excellent "UHP" RX thread running at present, but rather; it is hoped that the less well-equipped enthusiast may find something of value-

73, Drew, VK3XU. (Advanced receiver worker's; please do not switch off when you see mention of NE602's, there's more so please read on).

Have you built a number of radio and electronics projects? Maybe a linear amplifier, or a transmitter perhaps.
If you are contemplating having another go at some home brew, a receiver project comes highly recommended. Not only will a useful item be the product of our efforts, we also gain membership of that special club of experimenters who enjoy the magical delight of exploring the HF bands with a receiver that we have made at home. And to make the project even more interesting, cost can be held to low limits, in true amateur fashion, depending upon scavenging prowess.

A well-made direct conversion (DC) receiver can give surprisingly good performance, and these are adequate for uncrowded band conditions. However, to sort out a band packed with strong and weak signals, some sort of IF filtering will be necessary to provide more selective reception. Single-signal DC sets have been built and described, but are, I feel, more complex and difficult to construct than an 'equivalent' superhet design.

What follows are a few notes and a suggested circuit using locally available components, drawing upon my own practical work, and that of many other experimenters. An extensive bibliography of topical further reading is appended for those with a wish to burrow more deeply into the material touched on here, and have access to a State, Engineering, or Technical Library.

In the late 60's and early 70's, tube circuit technology and evolved to a point where receivers with impressive signal handling characteristics were the norm. Many amateur -built and commercial sets featured at least one 7360 balanced modulator tube, arguably the best HF receiver mixer ever to be mass-produced. Consequently, at about that time, when solid-state receiver designs began to be published, "transistorised" sets quickly gained a reputation for poor strong-signal performance, and were not a patch on their older tube rivals. Various solid-state devices gradually became available that gave acceptable performance, including the CA3028 (singly balanced), the 1496 balanced mixer IC, 40673 dual-gate FET, and the diode ring. Many 'serious' experimenters still favour the diode ring. However, in my opinion, they have several disadvantages; a rather large oscillator signal level is required (typically 5 mW), a conversion loss of about 8 dB is incurred, impedance levels are low (typically 50 ohms nominal), and therefore close attention must be paid to impedance matching for all products if the desired high level performance is to be realised. Nevertheless, moderately priced diode modules (e.g. the SBL-1) are available, and many published designs make use of the diode mixer. There are 'strong' active balanced mixers, including the SL6440 and SD8901/Si8901. Unfortunately, these devices are costly and not (at present, as far as I know,) easily available in small quantities in this country, although supply should improve soon.

Most of the circuits we see here (Australia)are European and American designs, which must cope with the thousands of powerful HF transmitters in those areas. Every amateur in the USA for instance, if you read QST, seems to have three neighbours just around the corner, each with a kW amplifier. Not a good environment for a weak receiver. In this region however, things are a little more relaxed, and in most instances we can generally get by with a less bomb proof, but far more build-able design.

Enter, stage left, the diminutive NE602 balanced mixer IC. This little chip and I have had a long friendship, and in that time I have grown to like it very much- although he has two undesirable characteristics. Firstly, he's not very strong. He may quake a bit when powerful signals are around. I've learned to live with that. By having a reserve of receiver gain (he contributes 15 dB himself), some RF attenuation 'up front' generally takes care of this problem. Numerous experimenters frown on RF attenuation used like this, and regard it as a sort of 'cop-out'. Nevertheless, it has gained acceptance, and even some manufacturers use an attenuator. On HF, natural

and man-made noise will usually be greater than the receiver front-end noise, so the point is perhaps fairly academic. Secondly, the 500 MHz bandwidth of the device makes it rather prone to TV and FM radio pick-up where the transmitters are close by. Building the receiver in a metal box, and including a 30 MHz low pass filter (if found necessary) takes care of this problem.

The first mixer must deal with all signals which pass through the input filter from the antenna. A doubly balanced mixer will considerably improve strong signal handling, and offer improved attenuation of any signals at IF. The NE602 is acceptable in this regard if the input signal is applied, and output product extracted 'in balanced mode'. I believe this is one aspect which is perhaps overlooked by some NE602 detractors. The product detector has only to deal with those signals which arrive through the IF crystal filter, so a dual gate FET will do a fair job if high input impedances are required, or a second NE602 would be fine if the 1.5 kohm input and output impedances suit the circuit arrangement.

For most amateur applications, an IF bandwidth of about kHz is required, which is readily obtainable with a home -made crystal ladder filter. Using cheap computer crystals, four-crystal filter, plus one for the BFO, will cost about $16 at present. The quartz units are manufactured in huge batches, and match each other very closely in frequency. Out of band attenuation can be improved by building the filter in its own little compartmented box. The bandwidth is largely determined by the value of coupling capacitors, and is best found by experiment. For 6 MHz crystals, 33 pF will give a 1.8 kHz BW, whereas at 8 MHz , about 220 pF will be required. Reducing capacitance increases BW. Obtain your crystals from one source, and check that they are all of the same make.

We must be very careful in our choice of IF and conversion crystal frequencies, always keeping in mind which bands need to be birdie free. Remember, a receiver is a sub-microvolt sensitive device. Harmonics of the VFO, the BFO crystal, and mixing products of these and any converter crystal (if in use) can produce bothersome spurs at spots in the tuning range. Let's try an example; say we choose a crystal filter IF of 6 MHz, and our basic tuning range is to be 3 to 4 MHz. The VFO runs on the 'high side', so it must generate 3 + 6 = 9 MHz, to 4 + 6 = 10 MHz. The BFO crystal is on about 6 MHz. Now the second harmonic of the VFO (when tuned to receive 3 MHz) is 18 MHz, and the third harmonic of the BFO is 18 MHz, so we (may) get a growl type birdie right on 3 MHz band edge.

Do not choose an IF which is included in a wanted band, or forces adoption of a VFO or BFO frequency where these signals, or a harmonic, puts an internally generated carrier smack onto a wanted band. So spend some time and do the arithmetic, considering harmonics of both oscillators to at least the fifth, then choose IF, VFO frequency range and BFO for minimum in-band spurs. Nevertheless, some sort of compromise is generally necessary. Problems can be greatly avoided by using compartmented construction for the various oscillators. Naturally, the VFO should be housed in an RF tight box- preferably die-cast, in accord with current practice. If the BFO is also boxed up, then the likelihood of these sources "getting together" and producing unwanted products is greatly reduced. Even with a balanced mixer, and a good input filter, it is possible for very powerful signals to break through into the IF. Therefore, for instance, in some parts of this country, it would be prudent to avoid choosing 5 MHz as our IF.

Varactor diodes offer a way of obtaining the variable capacitance required for VFO and input filter circuits. However, their use significantly increases complexity, and great care is needed for a VFO application. A high quality potentiometer, preferably a multi-turn type, and well regulated and filtered voltage supply is mandatory. Provided their larger physical size is not a big consideration, ordinary variable capacitors allow us to keep things fairly simple, and understand more fully what's going on. The resourceful builder should not have great difficulty in obtaining suitable parts. There generally seems to be a number to choose from at the hamfests I have seen (see Parts). The main problem now is that of finding a really good dial and/or reduction drive. If you choose a round numbered IF, then a well shielded electronic counter can do duty by simply measuring the VFO frequency (those kHz digits to the right of decimal point), and perhaps applying the appropriate plus or minus correction factor, depending on BFO setting. Then a planetary or worm drive can do the gearing down. Quite reasonable resolution and reduction can be had with a conventional 6:1 planetary dial if you only need to tune say, 200 kHz. However, for a 1 MHz coverage (as a 'tunable IF' for example), a decent dial will be called for. One from an old BC-221 frequency meter is a fine example. As far as I know, there are no really adequate dials available 'off-the-shelf', although, once again, they do appear for sale at hamfests and white elephant sales.

It was probably Wes Hayward, W7ZOI who made popular the term "ugly construction". Also called point to point, rat's

nest, bunch of grapes... not very flattering names for a construction method that, with a little care and practice, can yield quite satisfactory results Even better, consider the "paddyboard" method. More than a few would-be builders have a sort of "no circuit board- no build" attitude, which is a pity, because more stable operation can usually be obtained in HF circuitry by adopting ugly or paddyboard styles, and construction time is considerably reduced. Furthermore, if something is wrong, or some improvement is to be added, then it is a simple matter of soldering in the necessary components. So, true experimenting is encouraged. With a circuit board, '"the die is cast" and any changes are difficult and messy.

IC's may be inserted into wire wrap sockets. The NE602 for instance, has pin 3 at ground- so leave that pin pointing straight down, and gently flair out the remaining 7 pins. Now pin 3 can be soldered direct to ground foil. Components which have one leg to ground are sufficient in number to provide anchor points for the remaining components. Try to keep it all on a low profile. FETs and transistors are sometimes better positioned up-side-down. The emitter resistor for instance, may well provide the first anchor, so clip one lead, and solder that end to foil using the unclipped lead as a 'handle'. High value resistors, say 4.7 megohm with one lead soldered to foil may be used where no actual circuit component is available. If there is a possibility of components shorting to foil, stick a little square of tape onto the board. The circuit can be quickly built up this way. Mechanical support for heavier components, such as toroidal coils, may be obtained if necessary, with double-sided tape, or a small blob of acid free silicone.

A toroidal coil hint; where the plan calls for, say 47 turns of # 26 B&S on an Amidon T50-2 core, estimate the length of wire required by adding up height and thickness of the core dimensions. For a T50-2 it is 5 + 3 + 5 + 3 = 16 mm, then multiply by the number of turns; 47 x 16 = 752mm. Let's make it 800 mm allowing for leads and errors. Uncoil about 400 mm from the spool and start looping them through. You may get 25 turns on. A quick mental estimation will now tell you where to cut the wire, and wind on the remaining turns.

For the VFO tank coil, avoid using toroidal cores, or any magnetic core for that matter. In addition to their unpredictable temperature characteristics, they have a nasty tendency to pick up stray 50 Hz flux form power transformers, and so 'FM' the VFO frequency. A plain solenoid coil on a bakelite, ceramic or PTFE former is

ideal. The coil should be placed at or near the centre of the VFO box, thus minimising coil losses and microphony effects.

For applications such oscillators and filters where stability and low loss is desired, use polystyrene, NP0 or silver mica fixed capacitors. Unmarked, unknown capacitors have no place in such circuits, and it is false economy to press them into service- think of the time you may waste trying to de-bug a wobbly (or won't start) oscillator. Buy new ones. Variable capacitors and trimmers should be air-dielectric- the ones with a plastic dielectric can be very drifty. Monolithic capacitors, typically 0.1 µF, do an excellent by-pass and coupling job, and are real space-savers. Take care when soldering- the leads may come adrift with too much heat. If you are working from a published design, try to use the components specified. If substitutions of so-called "equivalents" are made by you, be aware that the circuit may function differently from the original. The greatest problem areas in my experience are unsuitable core materials (slugs and toroids), capacitor substitutions, improper circuit layout, and instability caused by component crowding and attempts at trying to make the thing too small.

A 3 to 4 MHz/HF Receiver (no circuit)

The circuit is based on the Computarock (Ref 15), with some improvements. For receivers of more than one band, general practice is to cover a basic tuning range which includes a low frequency amateur band. To tune 1 to 2 MHz (1.8 MHz), however, would have at least three drawbacks; broadcast signals may 'break through' into this first IF, image rejection would not be especially good (particularly at higher frequencies), and rather large variable capacitors may be required to obtain satisfactory tracking. A first IF (or basic range) of say, 3 to 4 MHz is much more manageable; since there are fewer powerful signals to break through, the image is at least 2 x 3 MHz (6 MHz) away, and smaller variable capacitors are required.

This is not a "high-performance" design, and no claims are made in that regard. However, it is build-able by the amateur with the usual skills and tools, and provides, perhaps surprisingly- quite acceptable performance under all but the most hostile receiving conditions. On 3 to 4 MHz, and using the suggested converter, sensitivity is in the order of 0.2 uV for 10 dB S+N:N,IF (8 MHz) rejection is over 80 dB, and worst-case image rejection (28 MHz) is 50 dB. In accord with previous notes, a crystal filter IF of 8 MHz offers spur-free operation throughout the

3 to 4 MHz basic tuning range, and also greatly avoids spur production with round numbered computer crystals if a converter is used. A sure-fire Hartley VFO runs on the "high side"; 11 to 12 MHz. All bands are forward tuning, providing reception of USB/LSB SSB, DSB, CW and AM (as SSB).

Simpler superhets generally make use of the internal oscillator transistor within the '602. However, for the reasons stated above, VFO and BFO are separate boxed units with their own sets of components. This modest increase in complexity is justifiable in our pursuit of minimum spur production and satisfactory signal handling. Note that there is no IF amplifier. After the crystal filter, the signal is applied directly to the product detector.

A dual gate FET RF amplifier provides a useful degree of gain or attenuation of input signals. The source is raised to about 1.6 V by inserting an LED between source and ground. This amplifier is the only point where AGC may be easily applied, and it works pretty well. Detected audio is sampled at the output of the first '741 AF amplifier, and applied to the AGC amp., a favourite circuit which has been around for years. Although not 'full' AGC, quite a useful range is obtained, and ears are certainly saved with this set-up.

Construction

Sufficient details are provided here for the experienced builder to make their own version, or to adapt circuitry as desired. My set is housed in a home-made aluminium box measuring HWD 155 x 250 x 255 mm. Good compactness, rigidity and screening between stages is obtained with one horizontal and two vertical internal panels as shown. Yet all the circuitry is accessible during and after completion. Mixer, crystal filter, AF amplifier and AGC amplifier are accommodated upon one board in the right-hand compartment together with boxed BFO, converter in the left compartment, 3-4 MHz RF amplifier and VFO in the centre, and power supply below centre.

Here is where I cheat a bit, and say something along the lines of "in my junk-box I had...". Well, in this instance I did indeed have the necessary variable capacitors; a dual 100/100 pF unit, one of those superb English types with dual ball bearings and the shaft going right through, so that the VFO capacitor may be directly coupled at the end opposite the drive, and a

30 pF of the same make for the VFO. These types appear at hamfests from time to time. Look out for them, as they are very adaptable to individual requirements. Also, unlike most locally made BC type capacitors, you can arrange for clockwise shaft rotation to give a reasonably linear increase in frequency. If space permits, interpose an effective flexible coupler between the VFO capacitor shaft, and whatever is driving it. This will reduce drive wear due to any small shaft mis-alignment, and unwanted frequency changes being relayed to the VFO capacitor from hand pressure on the tuning knob.

A worthwhile improvement in stop-band attenuation may be had by building the crystal filter into a compartmented box, made from tin-plate, brass or similar. Start with one vertical partition which has a small hole near the middle, and solder it to the circuit board foil. Then crystal and capacitor, another vertical partition, and so on, thus avoiding any fiddliness in building the filter. When the five partitions and four crystals have been mounted, the longer side walls may then be attached. No need to use a lot of solder- small "tacks" will allow you to take it apart again if necessary.

The suggested converter circuit for coverage of the HF range is very similar to that originally used for the Computarock, and the reader is strongly advised to look up Ref. 15 for fuller details. The table shows those bands available using cheap computer crystals. Note that when a conversion crystal of 4 MHz is used to gain access to the 7 to 8 MHz band, we have the possibility of a spur that tracks 7 to 8 MHz; when the VFO is on 11 MHz (3 and 7 MHz) we have 11 - 4 = 7 MHz, and when the VFO is at 12 MHz (4 and 8 MHz) we get 12 - 4 = 8 MHz. My rough breadboard model did indeed have a faint constant tone right across this range, which had me worried at first. However, apart from the crystals at 4 MHz and 8 MHz, there is no other audible spur when the VFO and BFO are boxed as described, nor is there a serious problem with tuning 11 to 12 MHz- a busy SW broadcast band.

Alignment
For the basic receiver, verify VFO operation, and adjust so that a range of just less than 11, to just over 12 MHz is generated. Connect an antenna to the input (a few metres of hook-up wire will do for now). If there is a TV set, or video recorder operating nearby, you should hear a burble about every 15 kHz across the band. Adjust the 55 pF trim capacitors at the input filter for as flat a response as possible. Depending on circuit vagaries, some compromise in response may be necessary. Counter-

clockwise (CCW) rotation of the RF gain pot should cause the S meter to deflect up to full-scale. Adjust the 100 ohm meter sensitivity trim pot for f.s. deflection at the CCW position of the RF gain pot, then return the RF gain pot CW to max. Set the 500k AGC pot to maximum. Tune in a strong signal- which should cause the meter to deflect upwards. Adjust the 500k AGC pot for what you regard as satisfactory AGC action (probably some point near maximum). The receiver should be responsive to strong and weak signals, which should sound clean, without hum, fuzziness or distortion.

Check that USB and LSB reception is possible. Crystals vary somewhat. The 7.5 µH coil for LSB is an average value found after trying several different makes of BFO crystal. However, if you find that LSB SSB signals sound too "woolly", more series inductance is required to move the BFO frequency further away from the filter band-pass. Experimentally add some five or eight turns to the coil, and check again. If LSB SSB sounds "tinny", then less inductance is required. No adjustment is available for USB- using the crystal "straight" puts it on about the right spot at the other end of the filter. However, the crystal can be pulled quite a lot higher in frequency by inserting the appropriate amount of series trim C, so keep that idea up your sleeve if required. As a final check, tune across a Morse or RTTY signal; you should get a strong note one side of the signal, then as you tune through to the other side, the note should be much weaker. Changing to the opposite sideband should reverse the strength of the notes. Also, the character of the background hiss (no signal present) should sound about the same when switched to either sideband.

Parts

I don't know about other cities, but here near Melbourne, in addition to the usual components retailers, we have three or four vendors of radio type items. Variable capacitors, trim caps, Amidon cores, NE602's and many other parts are available from Electronic Disposals (03) 723 2699, Daycom Communications (03) 543 6444, and Stewart Electronics, (03) 543 3733. Resurrection Radio (03) 529 5639 sometimes have good used variable capacitors. The Moorabbin Radio Club, Ballarat and Bendigo hamfests, and EMDRC white elephants are always good sources of parts. Two USA mail-order suppliers; Ocean State Electronics, and Antique Electronic Supply (see ads in QST) are, in my experience, reliable sources of radio components, including variable capacitors. Sheet aluminium may be bought at reasonable prices from Alcan outlets (check their off-cut bin- sometimes cheaper). Finally, Rod Irving Electronics and Tecs sell a good cheap

range of computer crystals (usual disclaimer).

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Comm Sep-Oct '93.

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ISBN 0070535701.
2. Radio Receivers and Reception- Gosling, IEE
Telecommunications Series.
3. Introduction to Radiofrequency Design- Hayward,
Prentice-Hall (also ARRL).
4. Solid State Design, DeMaw & Hayward,
ARRL Publications.
5. W1FB's QRP Notebook- DeMaw, ARRL Publications.
6. The Art of Electronics- Horowitz and Hill,
Cambridge University Press.
7. Practical RF Design Manual- DeMaw, Prentice Hall.

END

3671. Re: What is the best way to start to build a Tube Amp?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4p5glp$418@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104867

w8jitom@aol.com (W8JI Tom) wrote:
>In article <OQyPsBASgStxEw1U@ifwtech.demon.co.uk>, "Ian White, G3SEK"
><G3SEK@ifwtech.demon.co.uk> writes:
>
>>
>>Tetrodes are wonderful, but they do need well-regulated positive screen-
>>grid supplies, even if G1 and G2 are both grounded to RF.
>>
>>
>>73 from Ian G3SEK
>
>Good detail Ian, and something many people writing articles never
>consider. Screen (and in cases even control grid) regulation is very
>important.
>
>Very few tetrodes make good triodes, although there are a few exceptions
>that seem to work OK (like the 4-1000A and the 4CX5000A). It's luck of the
>draw rather than planned sucess when one works well.
>
>73 Tom

My $0.02...
I have had good results from my parallel pair of cathode driven 4-400s.
Woody WB4QXE 73

3672. FM ATV (Ref: Exp. Microwave Xmissn)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4p5j9l$bvq@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104868

I have successfully used a VCO from a scrapped cel-tel - this one went to 900MHz ok.. Directly modulated VCO through low gain video amp for better control. MMICs and a small brick take it to a few watts. Have used bricks designed for 800 MHz, but input matching got weird. Selecting the proper length of RG-188 to drive it was necessary to achieve output. Wrong length = no output!

For rx, I run my (conventional) downconvertor into an old satTV (LNA style) box which normally used a 70 MHz IF. ...Got it free from a friend who had installed an LNB system - was gathering dust in basement. Has ch3 and baseband video output.

The video quality is great and don't have to worry about linearity! It is built into the tape basket area of a mechanically damaged camcorder I got for $20. Too bad those are so hard to obtain... Transport/basket most failure prone area of camcorder - who cares!? Most places won't give/sell defective units. Several large store service areas checked said- yeah got a nice one with beyond repair basket, but you can't have it... Policy sez we gotta destroy it! :-(

??? Can anyone tell me what the LNA rx boxes want to see for audio modulation??? Currently I am not applying audio to the tx system but would like to...

Also... Have HBed several hetrodyne Tx for 426. Excellent audio, fair video pix. Had to start with a ch3/4 "modulator" from VCR which was a little limiting. Never could find the National chip I wanted to use (I think the AEA xcvr did use it). .. Mine was on the air when ARA started selling their (similar) rig.

We have a 426 in 923 out AM repeater on mountain top here also.

73, Woody WB4QXE woody.white@worldnet.att.net

3673. FM ATV (Ref: Exp. Microwave Xmissn)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4p5jdf$bvq@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104869

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73, Woody WB4QXE woody.white@worldnet.att.net

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Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4p5jee$bvq@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104870

I have successfully used a VCO from a scrapped cel-tel - this one went to 900MHz ok.. Directly modulated VCO through low gain video amp for better control. MMICs and a small brick take it to a few watts. Have used bricks designed for 800 MHz, but input matching got weird. Selecting the proper length of RG-188 to drive it was necessary to achieve output. Wrong length = no output!

For rx, I run my (conventional) downconvertor into an old satTV (LNA style) box which normally used a 70 MHz IF. ...Got it free from a friend who had installed an LNB system - was gathering dust in basement. Has ch3 and baseband video output.

The video quality is great and don't have to worry about linearity! It is built into the tape basket area of a mechanically damaged camcorder I got for $20. Too bad those are so hard to obtain... Transport/basket most failure prone area of camcorder - who cares!? Most places won't give/sell defective units. Several large store service areas checked said- yeah got a nice one with beyond repair basket, but you can't have it... Policy sez we gotta destroy it! :-(

??? Can anyone tell me what the LNA rx boxes want to see for audio modulation??? Currently I am not applying audio to the tx system but would like to...

Also... Have HBed several hetrodyne Tx for 426. Excellent audio, fair video pix. Had to start with a ch3/4 "modulator" from VCR which was a little limiting. Never could find the National chip I wanted to use (I think the AEA xcvr did use it). .. Mine was on the air when ARA started selling their (similar) rig.

We have a 426 in 923 out AM repeater on mountain top here also.

73, Woody WB4QXE woody.white@worldnet.att.net

3675. Re: FM ATV (Ref: Exp. Microwave Xmissn)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4p5jji$bvq@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104871

Sorry 'bout the multiple post... first time I ever timed out...
Did not handle very gracefully...

Woody

3676. HamCom Converter Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: louwerse@iastate.edu
Message-ID: <4p5lko$5f4@news.iastate.edu>
Source record: 104872
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I just downloaded HamCom 2.0 and need some clarification on the converter schematic. The Bridge circuit to the right of the Op Amp is confusing. I don't know which nodes are connections or not. Does anyone have a better copy or can clarify this part of the circuit?

Also, do I need the PTT input if I'm just going to hook it up to my DX-390 to decode RTTY? What's it for anyway?

--
+---+
|o| Mark A. Louwerse =====> louwerse@iastate.edu |o|
|o| Iowa State University - Computer Science Major |o|
|o| "..weed out any non-hackers who do not pack the gear..." |o|

3677. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: jathomas@netcom.com
Message-ID: <jathomasDsJzsn.B3@netcom.com>
Source record: 104873

TIEMANN BRUCE (tiemann@spot.Colorado.EDU) wrote:
: >From jathomas@netcom.com Wed Jun 5 13:28:13 MDT 1996

: >I'd appreciate any input on the accuracy of the toroid winding data in
: >the Amidon literature. I decided to measure the inductance of some cores
: >I was making for a project, with suprising results:
. . . . .

: 1. If the turns are all bunched up as opposed to spread out over most of
: the core, the coil inductance will be higher. This will have more of an
: effect for low-permeability cores than for high ones, which is borne out by
: your results. ...

: 2. Caps and your wiring have series inductance; this must be added to the
: inductor's "own" inductance. But with small ceramics, it'd be hard to
: believe they have a lot. Note, though, that the fractional excess of
: inductance is highest for the low values, and less for the big one - you
: have 100% too much inductance for the first two cases, and only 20% too
: much for the last one.
. . .

: 3. Permeability is a function of flux. Some cores increase their
: permeability by a factor of two or more when the coils are carrying some
: current, as opposed to the extrapolated zero-current value. But with a 1k
: resistor, this doesn't seem too likely either. Any idea how much current
: was in the wires? Or how many gauss was (were?) in the core?

: I think you've stumbled on a genuinely good question. Some of the Handbook
: circuits(1) give turns, core, *and* inductance for some components, and
: Behold! the asserted inductance is not consistent with the stated AL value
: of those cores with that many turns, so something is certainly up and you
: have brought it to light.

: Bruce
: N6URH

Thanks for the comments, Bruce. I thought my windings were spread out,
but I will experiment with that factor.

I used two different capacitors (and different frequencies, of course);
a 150pf ceramic, and a 1500pf polystyrene. I checked both values with a
bridge. The signal generator output is < 1 volt, so there's no high-current
situation.

It is interesting that the higher-permeability core had the least deviation.
I intended to build a bandpass filter, so I need a little better than
100% error on the iron powder cores. Does anyone know if Amidon is still

around?

John
N5RZP

3678. Re: Needed: FM stereo multiplex ICs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: pastark@cloud9.net
Message-ID: <4p5pf2$86k@cloud9.net>
Source record: 104874
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.shortwave

Rick Cramer (rickc@eden.com) wrote:
: I too have been trying to find a stereo mx chip.
: Does anyone know of any more information... the web sites mentioned
: below were not much help.

I guess you're talking about the Rohm Ba1404. It's a stereo multiplex generator plus an FM oscillator; you can build a stereo FM transmitter with just this one IC and some parts. But follow the Rohm spec sheet exactly unless you know what you're doing -- it's important to preserve the phase angles and duty cycles in the multiplex circuit. Even the designers of one popular FM stereo transmitter kit goofed up the design for their unit because they didn't know what they were doing. The one problem with this unit -- FM carrier instability and drift. It's really best to use the BA1404 to generate the subcarrier, pilot tone etc., and then use a separate FM transmitter (frequecy controlled) for the carrier.

Pete

3679. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4p5pm0$548@news3.cts.com>
Source record: 104875

W8JI Tom (w8jitom@aol.com) wrote:
: In article <4p5361$rth@peabody.colorado.edu>, tiemann@spot.Colorado.EDU
: (TIEMANN BRUCE) writes:

: >2. Caps and your wiring have series inductance; this must be added to
: the
: >inductor's "own" inductance. But with small ceramics, it'd be hard to
: >believe they have a lot.

: I'd worry a lot more about the capacitive loading effects of the scope
: probe!

I use a single turn loop as a pickup coil for this sort of measurement
instead of placing the scope across the tank circuit. A Boonton
RF voltmeter across the tank, however, would only add 3.5 pF.

3680. Re: How do you make a 7 ns. delay line @ 146 Mhz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: gearloos@pacbell.net
Message-ID: <4p5slo$h4n@news.snfc21.pacbell.net>
Source record: 104876

In article <4ov9u1$3c@nadine.teleport.com>, w7el@teleport.com says...
>
>In article <L6BwoD1w165w@uudell.us.dell.com!sneezy>,
> mike@sneezy.UUCP (Michael E. Colley) wrote:
>>Somebody here might know how to do this. I want to make about a
>>7ns delay line inside an inch square and a quarter inch high on a
>>PCB. Frequency bandwidth is 140-150 Mhz and any Z will work. I'm
>>thinking of the distributed L-C type.
>>
>>Is there any information about how to do this?

You might try:
Rhombus Industries
15801 Chemical Lane, Huntington Beach, Ca. 92649
(714) 898 - 0960 * (213) 594 - 8918
TWX:(910) 596 - 1826
Fax (714) 896 - 0971
They specialize in Delay Lines.
gearloos@pacbell.net

3681. Re: Accuracy of Amidon toroid data?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: kn5s@lascruces.com
Message-ID: <4p5sfm$32f@chile.lascruces.com>
Source record: 104877

John -

I've used the Amidon T-37-6 extensively in a homebrew transceiver, and in transverters. I haven't made measurements as you mention, but I always have to remove turns to obtain resonance, in a BPF, for example. To match your 2X measurements, I would have had to remove 30% of the turns. Don't think it was quite that much, but I had trimmer caps to compensate.

When I do measure coils or caps with SG/Scope as you mention, I always use 1k, or even 10k, on both sides. The scope probe has some capacity.

73,

Mark, KN5S DM62

--

Mark Mandelkern
Las Cruces, New Mexico, USA

kn5s@lascruces.com

3682. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-06 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p600e$97g@crash.microserve.net>
Source record: 104878

w8jitom@aol.com (W8JI Tom) wrote:
>jackl@pinetree.microserve.com (WB3U) writes:

>>Now, one end of the inductor is connected to the plate
>>(through a blocking capacitor) and the other end is connected
>>to the output of the network. This means that both ends of
>>the inductor are connected to points which exhibit a power
>>factor of unity. Under these conditions, where exactly is the
>>VAR that's causing the problem?

>In the circulating currents in the tank.
>
>The capacitor does not tune out the reactance of the tube, it
>actually is much low than the plate impedance so the source
>looks like a low shunt Z capacitive source, same with the load.
>That's why the network transforms impedance and has selectivity.

Well, you lost me here, so let me ask two questions. When the
network is terminated in a 50 ohm resistive load and tuned to
resonance, will it present a resistive load to the tube?

Also, if the network presents a resistive load to the tube,
will the the power factor at the input to the Pi be unity?

>Looking at the ends of the network doesn't describe what is
>going on in the center at all.

What I'm looking at are the two ends of the inductor. To me,
they appear to be the same two physical points as the ends of
the network. Because of this, I'm having a little difficulty
distinguishing between the center of the network and the center
of the inductor. You've said they're not the same, so can you
please tell me exactly what point in a Pi network you're
referring to when you say "center of the network"?

Also, I'm curious about the role of circulating current in this
situation. The Amidon formula only requires that we know the
RMS voltage across the inductor in order to calculate flux
density. Given that fact, why would (for instance) 100 V RMS
across the inductor cause greater flux density when the coil is
in a Pi network, than the same 100 V in any other situation? If
the voltage impressed on the coil is the same, I don't understand
how more or less current can flow through the winding. Is it
possible you're saying (in effect) that the voltage I've
calculated across the coil, based on the operating impedance of
the tube and the output of the amplifier, does not reflect the

RMS voltage that's actually present?

Incidentally, I found a circuit like this in the '78 Handbook. It's a 160M transverter with a pair of 6146's and it uses a T-200-2 toroid core as the basis of the Pi network inductor. I calculated the flux density using the same technique as in my post, but with the parameters of this specific circuit. The results agreed with the construction of the toroid shown in the article, that is, a T-200 core appeared to be the appropriate size for the amplifier.

I'm not about to use that example as evidence that my procedure is correct, particularly given your disagreement with it. However, I would like to have a better understanding of exactly what it is you're pointing to as the problem with my approach.

73,
Jack WB3U

3683. Re: CMOS Keyer II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4p9m1s$no3@peabody.colorado.edu>
Source record: 104729

"a little 1/2 by 1" ad, sometimes hard to find..."

...but the index of advertisers in the back makes it simpler, though
less sporting, to find.

Bruce
N6URH

3684. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <4p9j3b$sed@itnews.sc.intel.com>
Source record: 104730
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

mpitcock@edtech.cebs.wku.edu (Mark Pitcock) wrote:
>Can this antenna be also be used for shortwave frequencies and
>if so where can I find plans/info about building one?

I doubt that these techniques would improve reception as much
as they improve transmission. Modern SW receivers do not depend
as much on maximum power transfer as they do on S/N ratio. I'm
assuming you are asking about receiving rather than transmitting.

Info is available from TLCdhconsult@delphi.com. They are publishing
my application notes but I am not monitarily involved with them.

73, Cecil, KG7BK, OOTC (not speaking for my employer)

3685. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <4p9oos$csv@btc1.up.net>
Source record: 104731

I am interested in finding some circuits for white & pink noise
generators.

3686. Re: Empirical HF Receiver (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p9vrf$mg9@crash.microserve.net>
Source record: 104732

ddiamond@TRL.OZ.AU (Drew Diamond) wrote:

>AN EMPIRICAL APPROACH TO BUILDING AN HF RECEIVER

<<snip>>

>For applications such oscillators and filters where
>stability and low loss is desired, use polystyrene,
>NP0 or silver mica fixed capacitors.

It's been my experience that this is not particularly
good advice.

Silver mica capacitors are very unpredictable regarding
their temperature coefficient. They may be either positive
or negative, and may even exhibit a rate change or outright
reversal of the coefficient as various temperature thresholds
are reached. Stable units can be hand-picked if one has the
time and patience, but even these may exhibit a change in
temperature coefficient with age.

It has been suggested elsewhere that the negative temperature
coefficient of polystyrene capacitors will offset the
positive coefficient of oscillator inductors, resulting in a
stable circuit. However, I have found that their negative
coefficient (which varies from cap to cap) may simply
overcompensate the coil, resulting in significant drift in
the reverse direction. This is particularly true if a good
quality inductor is used. These capacitors are extremely
stable with age, but they are expensive and values above
100 pf or so can cost more than $3 each.

Quality NPO (COG) disc capacitors exhibit a coefficient
close to zero and their aging characteristics are suitable
for all types of amateur VFO work. In addition, they are
much less expensive than the previously mentioned types.

It is my suggestion that any new VFO first be built solely
using NPO discs. The capacitance should be divided among
various value capacitors. If drift is excessive, then and
only then should polystyrene caps be used in the circuit.
In this way, a negative coefficient can substituted for the
NPO capacitors gradually, and the process will be much less
frustrating. Alternately, if one can locate a differential
variable capacitor that will fit in the VFO compartment,
the differential and a N2200 disc can be used in place of
the polystyrene, and the differential capacitor adjusted

for zero drift.

I am also experimenting with monolythic capacitors as replacements for NPO discs, but I'm concerned about their dielectric stability. Does anyone know if the characteristics of these capacitors is likely to change significantly with age?

73,
Jack WB3U

3687. Re: ! June 96 CD-ROM Available !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: jrouse@dc.infi.net
Message-ID: <4pa2o9$shv@nw101.infi.net>
Source record: 104733
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

amsoft@epix.net wrote:

>AmSoft announces the June 1996 release of its CD-ROM "The World of
>Ham Radio". and blah-blah snipped..
====
I wondered how long it would be before the Internet hawkers found
this group.... DXers would surely want the "Flying Horse" Calbbook
disk, not this one, which is a rather paltry choice from among the
several on the market. The far better QRZ disk is available at $12.95
at many
outlets.
73, John KA3DBN

===
John L. Rouse Packet:ka3dbn@ka3rfe.md.usa.noa
Capital-Gazette Communications Fax: (301) 464-7027
Annapolis, Maryland Voice mail: (301) 262-3700 X200
==========
jrouse@dc.infi.net jrouse@capaccess.org
john.rouse@reporters.net.....

3688. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4pa51k$odv@crash.microserve.net>
Source record: 104734

Post / CC by Mail

jathomas@netcom.com (John A. Thomas) wrote:

>I used two different capacitors (and different frequencies,
>of course); a 150pf ceramic, and a 1500pf polystyrene.

>It is interesting that the higher-permeability core had the
>least deviation.

This is explained by the fact that the capacitance of your test setup is a lower percentage of overall capacitance with that particular inductor/capacitor combination.

You need looser coupling to the circuit under test for the measurements to be valid. Again, a GDO is one of the best ways to do this.

>Does anyone know if Amidon is still around?

Amidon Associates
P.O. Box 25867
Santa Ana, CA 92799
Tel: (714) 850-4660
Fax: (714) 850-1163

73,
Jack WB3U

3689. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4pa5km$odv@crash.microserve.net>
Source record: 104735
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

mpitcock@edtech.cebs.wku.edu (Mark Pitcock) wrote:

>Can this antenna be also be used for shortwave frequencies and
>if so where can I find plans/info about building one?

Mark, it definitely isn't necessary and I don't think you would
see any improvement whatsoever.

The difference between the need to do this on transmit VS receive
has to do with the fact that in transmit, we are generating RF
that can cause problems if it doesn't go where we want it to.

For receive only, you would do just as well to feed the non-
resonant antenna with coax and use an inexpensive L/C tuner ahead
of the receiver. Even at that, the difference may not be
significant.

Regards,
Jack WB3U

3690. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4pa6ui$p3m@crash.microserve.net>
Source record: 104736

macino@mail.fwi.com wrote:

> I saw this heading and it caught my eye. 10-30, isn't that about
> the frequency range of some little kid kicking the back of your
> seat in a movie theater?

The lower part of that range also matches the kicks to your seat from the infant riding in his mother's lap in the seat behind you on the 6-hour flight from Pittsburgh to LA. Luckily though, his constant screams are usually well above that frequency. :-[

>I also think noise in that subaudible range causes nausea in
>some humans...

Also fatigue. I read an article a number of years ago in which the author speculated that automobiles can cause false motion sickness and/or driver fatigue. The theory was that as the car travels on uneven road surfaces, chassis/body flex would create subsonic pressure changes in the interior. The author also suggested that the effect is most pronounced in poorly designed unibody models.

73,
Jack WB3U

3691. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: michaelp@pantheon.cis.yale.edu
Message-ID: <michaelp-0706961802050001@remote1-line25.cis.yale.edu>
Source record: 104737
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

In article <31B760A2.1E3F@erols.com>, Jake Brodsky <frussle@erols.com> wrote:

> Cost was more than what Tom, KI4N described, but boy did it sound
> good! BTW Tom, have you actually built this thing? If so, what
> was the performance and dynamic range like?
>
Should be easy, and the commercial synch detectors that I have by Sony for the SW100 and 2010 are fine, but the offering with the Grundig Satellit - supposedly top of the range - goes to show just what a mess can be made of the project. Even by 'experts'. ;-)
The poor audio, howls, rumbles and rotten sideband suppression make the option barely worth using. Add to that the necessity to use MGC with it, and it's a dog!

BTW, I note that the new ICOM tabletop - I guess to supplant the venerable R71A (yes, I still love it) - seems to come without a synch detector. Is this intentional? Have I missed something? Maybe Icom has missed something?

3692. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: John Fallows <fallowsj@cadvision.com>
Message-ID: <4pa8qg$2ht6@elmo.cadvision.com>
Source record: 104738
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

You can also use a circuit like the Plessey 624/1624 which uses a limiting amplifier rather than a phase lock loop to generate a local carrier. I build the simple circuit from the Plessey 624 application note, which I feed with the 100 Khz. IF from my Racal RA-17, then into a separate audio amplifier Total cost under $10. Very good audio with a bit of bass boost which makes for pleasant listening.

--
John Fallows VE6MBA
Calgary, Alberta Ernst & Young (403) 261-4448
fallowsj@cadvision.com

3693. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <31B8F30E.14B9@crpl.cedar-rapids.lib.ia.us>
Source record: 104739

Bob Lombardi wrote:

> BTW, Amidon just distributed core forms from Micrometals (iron powder)
> and Fair Rite (I think - for the ferrite cores). I've heard they're gone,
> but don't know for sure. I have the micrometals cores books (Q curves and
> all) if you have questions.

Can you tell me what this statement means? Can't figure it out.

Thanks,
Bill W0IYH

3694. Want to use optocoupler as RF tranformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: vesta@stout.entertain.com
Message-ID: <4pb074$cv9@stout.entertain.com>
Source record: 104740

(The following are solely my own opinions and not those of my employer - Andrew Jonathan Fine - WA2JAZ)

TWIMC,

I've been wanting to experiment with direct conversion receiver circuits, and I had the possible idea, maybe a crazy one, that perhaps an optocoupler (eg... a chip with a photodiode on one side, and a photodarlington on the other) of today's technology could pass a 1.8 to 4.0 Mhz small RF signal.

I recently read of an EDN article that used an Op amp on one side of an optocoupler to expand the usable bandwidth from kilohertz to submegahertz. I was wondering if the circuit experts out there would be willing to render thier opinion on using standard bipolar or fet amplifiers to expand the usable bandwidth of an optocoupler into low RF.

I think the big advantages of using an optocoupler rather than a transformer for interstage coupling would be as follows:

1) The diode side could be used as part of the product detector, with the darlington side getting the rectified AF signal emitted as light from the diode.

2) It might increase the stability of a VFO circuit if used as coupling between the VFO and mixer.

3) Circuit might be less sensitive to stray inductances since we cut down on wire transformers, because we are using "photonic transformers" instead.

Opinions?

Thanks in advance!

3695. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: <>
Message-ID: <4p83og$md8@news.fwi.com>
Source record: 104811

In <4p28o6$ja1@blixen.aquilagroup.com>, kferguson@aquilagroup.com (Kevin AstirCS "1U" KO0B) writes:
>
>I seem to recall a 10 Mbps + voice microwave link from the ARRL
>handbook.
>
>It used two of the pretty cheap gunplexers, and was full duplex.
>
>Seemed like they had an ECL feed .
>
>Given that much, you still have to add a protocol layer, and software
>to support it. Maybe you can make tcp/ip work....I don't know much
>about that, except enogh to have great respect for those who do!
>
>They had snow-saucers for dishes, but at half mile, I suspect the
>horns alone would have sufficent gain.
>
>I've had bad luck running modems over anyuthing other than tel-co
>circuits...they are pretty much tweaked for that service.
>
>GL, 73
>ko0b
>

Hi,
After you have your licensed stations on both ends. You have to decide what your going to do with the 'other' computer. Are you just experimenting with remote control or do you expect to have a tightly coupled network? If your just 'trying it' and both machines are DOS based, the old little known CTTY command might be a way to talk to the other system. They both are at a DOS level, and the remote system becomes controlled by the local console. This is the simplest 'two wire' path. You could build a NULL modem cable and try it out with two systems side by side. Then just think of two packet controllers as modems (they really are). I think AX.25 mode will let you link the 'hardware level' I'm no packet guru, or any other for that matter.
If you can get that to play, you might attempt something like KopyKat (Warp) or PC Anywhere (DOS) to perform advanced control functions. File networking is going to require a NOS (Networking Operating System) like JNOS, Warp Connect Peer to Peer, etc.

Jim WD9AHF

3696. Re: Late 60's early 70's ARRL Handbook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: <>
Message-ID: <4p82i0$md8@news.fwi.com>
Source record: 104812

In <4p26g8$onq@crash.microserve.net>, jackl@pinetree.microserve.com (WB3U) writes:
> Joe Leikhim <Jleikhim@nettally.com> wrote:
>
>>If anyone out there has this vintage Handbook please check for
>>a 6 meter amplifier circuit using a pair (Au PAIR?) 4-125 or 6155
>>tubes in push pull. I would like a reprint of the schematic and
>>any power supply or biasing details for a half finished project.
>
>The '62 Handbook only has a circuit using a single 4-250A for
>6 meters and a push-pull 4-125A design for 2 meters. The '71
>and '72 Handbooks show a single 3-500Z design for 6 meters.
>
>Sorry I can't be more help, but I don't have any other years
>close to the range you mentioned. Perhaps the circuit you're
>looking for is between these years.
>
>73,
>Jack WB3U

Is it possible that this schematic might have been in the 'Specialized
Communications" publication??? I didn't find it in the 1969 or 1976 editions.

Jim

3697. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4p8p33$9pl@crash.microserve.net>
Source record: 104813

w8jitom@aol.com (W8JI Tom) wrote:

>My point, that I may not have made well because I didn't want to
>get lengthy, was that things aren't as simple as the dc anode
>voltage and current as related to the load voltage and current.

Let me summarize what you've said, just to be sure I understand it.

1. The method I used to determine core size is correct, but
certain operating conditions have to be met.

2. One of the conditions is that the network must be tuned
to resonance. If the network isn't resonant, the voltage
across the coil can be almost any value.

3. Another condition is that the network must be adjusted so
that the tube is properly loaded. If it is set so that
there is excessive loading capacitance (too lightly loaded),
anode RF voltage will be higher than is provided for in the
calculations.

4. Significant voltage phase shift may occur across the coil.
Adding the input voltage to the output voltage (representing
a 180 degree shift) will provide a worse-case number when
calculating flux density.

Incidentally, I have discovered that this is intended to be used
in a converted CB amplifier, and that the plan is to convert the
amp to 40 meters only. There apparently isn't room for either an
air-core coil or multiple toroids.

One other thought on all this. The operating impedance of this
amplifier is about 1,200 ohms. If a 4:1 and a 6:1 transformer
were used in series, the operating impedance would be transformed
to 50 ohms. Then, external filters could be used. This has the
disadvantage of requiring the filters, but it would result in a
broadband amplifier. What do you think about this idea as a way
of getting multiband use from the amplifier?

73,
Jack WB3U

3698. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: <>
Message-ID: <4p82rs$md8@news.fwi.com>
Source record: 104814

In <4p2aam$bsu@orange.iap.net.au>, uncle@iap.net.au (Uncle@iap.net.au) writes:
>Billy@don't.bother.sending (Billy the kid) wrote:
>
>>In order to beat the bills of BT, I want to connect two computers about
>>1/2 mile from each other.... I was thinking of using some sort of radio
>>link, but I ain't sure if it will work. I was thinking of something like
>>the below for both computers :
>> _____________
>> | \
>>Modem ____|___ Receiver |_______ FM Transmitter
>>input ________ output _______ Input
>> | |
>> |_____________/
>>
>>The two computers would be transmitting on different frequencies, but
>>would some sort of feedback occur?
>
>>If anyone could help me or point in the direction of a circuit
>>which will do this
>
>>Rgrds
>
>>Peter Stevenson
>
>
>
>First off, you'll need a license if you're going to transmit
>anything. It'll never work on CB, so you'll have to study up
>a bit and get your ham license. (No Morse nec, since in
>this case you'd only be using vhf.)
>
>Then look at a subject called "Packet Radio"
>However, due the large bandwidth needed, switching
>speeds are rather limited. Can you live with 1200 baud?
>
>Uncle Brian VK6BQN
>
>

3699. Re: CMOS Keyer II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: dnorris@k7no.com
Message-ID: <4p84i8$p3i@news.syspac.com>
Source record: 104815
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dio <diomar@electriciti.com> wrote:

>Looking for the CMOS Keyer II kit.

>I have an address of:
>Idiom Press
>Box 1025
>Geyserville, CA 95441

>Anyone dealt with them?
>Prices?
>Do they have a tele#?

>THX
>
>--Dio

Super keyer. No phone that I know of. Nice group of hams. U won't
be sorry.

cdn

This opinion does not reflect

No ... I don't work for them.

C. Dean Norris
Amateur Radio Station K7NO
e-mail to dnorris@k7no.com
http://www.syspac.com/~dnorris/

3700. How do i calculate where to tap my coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: J&#65533;rgen J&#65533;nsson <Jorgen.Jonsson@uddeholm.se>
Message-ID: <4p8ouv$t65@Steinlager.tip.net>
Source record: 104816

if you know how to calculate how and where to tap my coils

pse jorgen.jonsson@uddeholm.se

3701. HOW to Calculate COIL TAP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: J&#65533;rgen J&#65533;nsson <Jorgen.Jonsson@uddeholm.se>
Message-ID: <4p8oot$t65@Steinlager.tip.net>
Source record: 104817

How do i calculate where to tap my coils !?

Please send a mail if you know how !

jorgen.jonsson@uddeholm.se

3702. Re: 10 to 30 hz White Noise Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4p9dk2$t92@news.fwi.com>
Source record: 104818

In <4oquss$2oe@crash.microserve.net>, jackl@pinetree.microserve.com (WB3U) writes:
> tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:
>
>>Another possibility is to use a broad-spectrum noise generator,
>>and then put it through some active bandpass filters.
>
>The usefulness of this approach will depend on A) how abruptly
>the noise energy must end at 10 & 30 Hz, and B) how accurately
>the energy between 10 & 30 Hz must comply with the technical
>definition of white noise.
>
>It would be interesting to know more about the purpose of
>generating this particular "signal".
>
>73,
>Jack WB3U

Jack,
I saw this heading and it caught my eye. 10-30, isn't that about the frequency range of some little kid kicking the back of your seat in a movie theater? I also think noise in that subaudible range causes nausea in some humans...
Jim

3703. Re: Microwave ovens - anyone know the HT ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: mikegem@aol.com
Message-ID: <mikegem-0706960952180001@diamonds.batnet.com>
Source record: 104819

In article <1996Jun6.093421.24483@ucl.ac.uk>, davek@medphys.ucl.ac.uk wrote:

> Has anyone ever measured the HT of a microwave oven ? I see the
replacement magnetrons
> in RS seem to have a maximum of 4.1 kV,

The microwave oven supplies I've seen have usually been half-wave voltage
doublers. The
HV transformer would probably give you what you need if you used it with a
conventional
full-wave bridge & filter circuit.

JMP

3704. Re: HamCom Converter Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: Madjid <orion@odyssee.net>
Message-ID: <31B86EF4.59EB@odyssee.net>
Source record: 104820
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.misc,rec.radio.amateur.homebrew

Mark A Louwerse wrote:
>
> I just downloaded HamCom 2.0 and need some clarification on the converter
> schematic. The Bridge circuit to the right of the Op Amp is confusing. I
> don't know which nodes are connections or not. Does anyone have a better
> copy or can clarify this part of the circuit?

The "bridge" is a circuit that will always reroute the good polarities
from DTR and RTS to the op-amp to have pin7 +Vcc and pin4 -Vcc. This was
added because on some computers DTR and RTS may flip to reverse polarities
during power-up (boot) and that could damage the Op-AMp

> Also, do I need the PTT input if I'm just going to hook it up to my DX-390
> to decode RTTY? What's it for anyway?

Nope. Just the receiving section is fine.

Madjid BOUKRI, VE2GMI Internet: orion@odyssee.net
Antenna simulation program NEC4WIN found at:
http://www.coast.net/SimTel/SimTel/win3/hamradio/nec4w15.zip

3705. Re: need help with wire dipole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: mpitcock@edtech.cebs.wku.edu
Message-ID: <4p9c3q$3ot@news.wku.edu>
Source record: 104821
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

In article <4p4q93$bpi@itnews.sc.intel.com>, cmoore@sedona.intel.com
says...
>
>Clifford Buttschardt <cbuttsch@slonet.org> wrote:
>>Good God Cecil, your are about to undo years of myth that coax is the way
>>to go! Most of us have been barking up a tree trying to tell the
>>newcomers this. I gave up long ago after redoing the one third
wavelength
>>flat top with one sixth wavelength open wire feed all band antenna and
yet
>>the G5RV is still considered a radiator rather than a dummy load!
>
>Hi Cliff, the subject needed an evangelist and I'm it, anointed by Mother
>Nature to solve the 50-ohm to ladder-line matching problem once and for
>all. That problem is what is keeping coax alive used with fixed balanced
>antennas. I have solved the problem. It is easy to do. It eliminates all
>the coax except the short run from the balun/choke to the transmitter.
>It results in a perfect SWR without a commercial antenna tuner. It allows
>a 102ft dipole to radiate as well as a perfectly matched coax fed 40m
dipole
>plus it works on all the other HF bands just as well. Plus ladder-line is
>a lot less expensive than coax. Did I miss anything?
>
>73, Cecil, KG7BK, OOTC (not speaking for my employer)
>
>

Can this antenna be also be used for shortwave frequencies and
if so where can I find plans/info about building one?

3706. Re: Sizing toroid core for use in tube pi-net?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4p9dl6$39f@newsbf02.news.aol.com>
Source record: 104822

Hi Jack,

In article <4p8p33$9pl@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) writes:

>2. One of the conditions is that the network must be tuned
> to resonance. If the network isn't resonant, the voltage
> across the coil can be almost any value.

Not resonance, but rather to a conjugate match or slightly overcoupled.
When the load is miscoupled to the source, the voltage in the tank can get
pretty wild. If the circuit isn't resonant, nothing much goes on. The
output device just gets hot.

>3. Another condition is that the network must be adjusted so
> that the tube is properly loaded. If it is set so that
> there is excessive loading capacitance (too lightly loaded),
> anode RF voltage will be higher than is provided for in the
> calculations.

A whole bunch more, I've measured as much as ten times more in test
circuits.

>Incidentally, I have discovered that this is intended to be used
>in a converted CB amplifier, and that the plan is to convert the
>amp to 40 meters only. There apparently isn't room for either an
>air-core coil or multiple toroids.

Yuk. I hope the thing has decent support circuitry. Most CB amps are
absolute trash for IMD. I'd pay a lot of attention to the rest of the
circuit also.

>One other thought on all this. The operating impedance of this
>amplifier is about 1,200 ohms. If a 4:1 and a 6:1 transformer
>were used in series, the operating impedance would be transformed
>to 50 ohms. Then, external filters could be used. This has the
>disadvantage of requiring the filters, but it would result in a
>broadband amplifier. What do you think about this idea as a way
>of getting multiband use from the amplifier?

The anode waveform is a pretty rough series of pulses. Remember how the PA
works, the tube is a time varying resistance that gives the tank a little
pull in one direction only. The tank has to wheel around to smooth stuff
out, and then the tube gives another tug at the correct time again.
(Unless it's class A or push pull.)

I'm afraid the transformers would have a tough life, being in the middle of all this tugging and flywheeling, hi.

It's tough to build a good 1200 ohm to 50 ohm transformer network for a sine wave signal on one band, let alone a signal that contans many high order harmonics and covers many bands.

Even with a sine wave, the anode output reactance and other strays would kill the system on ten meters. It's certainly not as efficient as a simple pi-network, nor very practical.

The closest thing to the system you described was a Central Electronics amp that used low Q link coupled networks. That was before the days of FCC type acceptance that required good harmonic suppression.

I'd stay with the pi, and make sure thee thing was a clean design.

73 Tom

3707. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: macino@mail.fwi.com
Message-ID: <4p9e4t$77@news.fwi.com>
Source record: 104823

In <DsJ7H6.9pH@ncifcrf.gov>, mack@ncifcrf.gov (Joe Mack) writes:
>In article <4or2i9$kvg@nnrp1.news.primenet.com> Cecil Moore <kg7bk@primenet.com> writes:
>>: Does anyone on the net have a url for a sound, real world
>>: design for the fabrication of coaxial matching lines to allow
>>: use of catv al 1/2" hardline from a 52 ohm source to a 52 ohm load
>>: on 144 and 440 mhz?
>>
>
>Someone sells these, I've seen them, although I don't know who.
>THey're made of Cu tubing (1/2" OD) with a center shaft made of
>smaller CU tubing which fits over the center conductor of the
>hardline. the outer Cu tubing is held on to the hard line by a hose
>clamp. Looks nasty but I know someone who has them up on his
>tower and he's had no problems with them.
>
> Joe NA3T
> mack@ncifcrf.gov
>
>
>
>
Hi,
Cablewave Systems makes an end connector P/N 16733 that gets you from
1/2" aluminum CATV hardline to an 'N' connector. I'd bet they have what your
looking for. Sorry, no address on Cablewave. I use them to terminate a 175'
run betwixt the 4-1K and my tower. Works slick...

Jim

3708. Kenwood TS440s RS232 Upgrade

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: PAUL MULLINER <PAUL@mulliner.demon.co.uk>
Message-ID: <45562524wnr@mulliner.demon.co.uk>
Source record: 104824

Can anyone inform me as to the type and make of the 2 ic's required
to upgrade the above radio's controll pcb to o/p ttl signals for rs232
interface???
I believe this info is supplied in the operators manual (which I dont
have)
PS Thanks to all those who E-Mailed me with the interface needed.
I'll be making a trip to MAPLINS this afternoon to by their kit
priced at 11.75 + a box Beats Kenwoods 88.00

Go ON! let your PC take over your radio for the weekend!!!
Regards 73's de paul
--
****
* Paul Mulliner *
* Barnsley, Yorkshire, UK *
* paul@mulliner.demon.co.uk *
****

3709. Re: FM ATV (Ref: Exp. Microwave Xmissn)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4p9ffl$p7o@news.calweb.com>
Source record: 104825

I don't want to quote the original so in summary the idea is
to use an old defective VCR for receiver parts.

I have salvaged a couple of these for parts and some of them have
a module that is the complete receiver, RF to video and audio.

This only works for a VCR that has a "cable ready" tuner.

See if those stores that insist on destroying them will let you
check for the module, if so, help them destroy them by removing the
module. Get the connection info at the same time.

They work great for reception of 435 MHz AM transmission.

Bill K7NOM

3710. Re: Late 60's early 70's ARRL Handbook

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: dhhogan@lightside.com
Message-ID: <31b77758.6950758@netnews.lightside.com>
Source record: 104826

jackl@pinetree.microserve.com (WB3U) wrote:

> Joe Leikhim <Jleikhim@nettally.com> wrote:
>
>>If anyone out there has this vintage Handbook please check for
>>a 6 meter amplifier circuit using a pair (Au PAIR?) 4-125 or 6155
>>tubes in push pull. I would like a reprint of the schematic and
>>any power supply or biasing details for a half finished project.

Nothing matching these tubes in the 1961, 1976, 1978
editions.

Dan Hogan
dhhogan@lightside.com

3711. Re: Microwave ovens - anyone know the HT ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4p9hcc$ltd@newsgate.sps.mot.com>
Source record: 104827

The three microwave ovens I've dismantled all yielded a transformer with approximately a 2100 volt CT secondary. With a full-wave rectifier (CT grounded), this will give somewhere around 1500 V, and around 2800 V with a full-wave bridge (CT unused).

It is certainly well worth getting a junked microwave for parts and experimentation. They yield up a lot of nice switches, even if everything else is dead.

Jim N6OTQ

3712. Re: Microwave ovens - anyone know the HT ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-07 00:00:00 UTC
From: Lennart Nilsson <ln@hagagymnasiet.norrkoping.se>
Message-ID: <4p9g2j$325@simba.lejonet.se>
Source record: 104828

Many years ago I got some HT-transformers used in
Philips/Whirlpool microwave ovens and wanted to use one with a
linear amp. They were 2100 V AC-units with a low voltage filament
winding.
With just a bridge rectifier the DC output held up well under
load but when I added a capacitor the DC voltage dropped
dramatically when I loaded it so eventually I discarded the
transformers.
Obviously the peak current through the capacitor made the core
saturate, perhaps intentionally as a built-in magnetron flashover
protection.
I noticed that the laminated core had been welded in a couple of
strings. Normally the laminations are isolated from each
other with a coating of varnish. Could that be the explanation?
73 de Lennart, SM5DFF

3713. Re: Mac Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: SteveP@Dartmouth.edu
Message-ID: <SteveP-0706962108030001@ka2-45.dartmouth.edu>
Source record: 104741

Hi Nick,

If you're looking for a TNC, any of the current models will work. The conventional RS232 on the TNC is 99% compatible with the Mac's RS422 serial ports. You just need to either make a cable, or buy one for between $5 and $15 from any computer store or MacWarehouse etc. Right now I'm on a Powerbook 160, that's hooked to a PPP Internet connection and the local Packet system via a TAPR TNC-2. You can either pick up a used TNC at a hamfest, or buy one from HRO (http://www.hamradio.com/) or AES (1-800-558-0411). You might also find a kit somewhere, but I don't know about those.

Good luck, and happy packeting.
Steve, N1TYE

In article <4ot6i1$ag6@horn.wyoming.com>, Nick <simba@uwyo.edu> wrote:

> Anyone know where to find or have plans for a TNC/Packet modem for the
> Macintosh via the 8-pin serial port?
>
> Thank you,
>
> Nick
> KC7OJX

3714. Re: FM ATV (Ref: Exp. Microwave Xmissn)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4pas9s$t18@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104742

William W Janssen <billj@calweb.com> wrote:
>I don't want to quote the original so in summary the idea is
>to use an old defective VCR for receiver parts.
>
>I have salvaged a couple of these for parts and some of them have
>a module that is the complete receiver, RF to video and audio.
>
>This only works for a VCR that has a "cable ready" tuner.
>
>See if those stores that insist on destroying them will let you
>check for the module, if so, help them destroy them by removing the
>module. Get the connection info at the same time.
>
>They work great for reception of 435 MHz AM transmission.
>
>Bill K7NOM
>

Quite true! I can't count how many dead VCRs I have gutted for ATV parts....
I forget the exact ch, guys, but 70cm ATV is about ch 60 - 68. Have known
some who used a retuned downconverter to dump into the if section if the
front end or synth. is fried. On one older varactor (non cable ready) unit
I opened the LO section and added a bit more inductance to tune down from ch 15.
This can be a bit tedious!

I have also built a GASFET / double tuned pcb stripline filter / MMIC front
end. This can be antennna mounted and really "wakes up" (and adds selecectivity)
the cable ready VCR for ATV.

73 Woody, WB4QXE woody.white@worldnet.att.net

3715. Dampening/Blocking radio signals?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: stygian@earthlink.net
Message-ID: <31B95398.23F4@earthlink.net>
Source record: 104743

Besides the conventional copper-wire mesh (ala cia) solution, is their
an alterative material that could hypothetically be used to block
radio signals? I'd be extremely gratefull if someone could enlighten
me in this matter. Please email me if you could assist.
-stygian@earthlink.net

3716. Re: Speaking of the ARRL Handbook...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: gkd@bigwpi.WPI.EDU
Message-ID: <4pat6o$fv@bigboote.WPI.EDU>
Source record: 104744

In article <31B6B627.84A@execpc.com>, Rick Miller <rdmiller@execpc.com> wrote:
>Hi!
>
>I was just looking over the 1996 ARRL Handbook description on their
>web pages... it mentioned a VLF transceiver that didn't require a
>license.
>
>Where might I find more details about this equipment and this band?

Check out the Longwave Club of America home page at:

http://www.anarc.org/lwca/

You should find answers to all your questions there.

Greg
N1DEM

3717. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4pahh3$6fa@cc.iu.net>
Source record: 104745

In article <jathomasDsJzsn.B3@netcom.com>, jathomas@netcom.com says...
>
>TIEMANN BRUCE (tiemann@spot.Colorado.EDU) wrote:
>: >From jathomas@netcom.com Wed Jun 5 13:28:13 MDT 1996
>
>: >I'd appreciate any input on the accuracy of the toroid winding data in
>: >the Amidon literature. I decided to measure the inductance of some cores
>: >I was making for a project, with suprising results:
>. . . . .
>
>: 1. If the turns are all bunched up as opposed to spread out over most of
>: the core, the coil inductance will be higher. This will have more of an
>: effect for low-permeability cores than for high ones, which is borne out by
>: your results. ...
>
>: 2. Caps and your wiring have series inductance; this must be added to the
>: inductor's "own" inductance. But with small ceramics, it'd be hard to
>: believe they have a lot. Note, though, that the fractional excess of
>: inductance is highest for the low values, and less for the big one - you
>: have 100% too much inductance for the first two cases, and only 20% too
>: much for the last one.
>. . .
>
>: 3. Permeability is a function of flux. Some cores increase their
>: permeability by a factor of two or more when the coils are carrying some
>: current, as opposed to the extrapolated zero-current value. But with a 1k
>: resistor, this doesn't seem too likely either. Any idea how much current
>: was in the wires? Or how many gauss was (were?) in the core?
>
>: I think you've stumbled on a genuinely good question. Some of the Handbook
>: circuits(1) give turns, core, *and* inductance for some components, and
>: Behold! the asserted inductance is not consistent with the stated AL value
>: of those cores with that many turns, so something is certainly up and you
>: have brought it to light.
>
>
>: Bruce
>: N6URH
>
>Thanks for the comments, Bruce. I thought my windings were spread out,
>but I will experiment with that factor.
>
>I used two different capacitors (and different frequencies, of course);
>a 150pf ceramic, and a 1500pf polystyrene. I checked both values with a

>bridge. The signal generator output is < 1 volt, so there's no high-current
>situation.
>
>It is interesting that the higher-permeability core had the least deviation.
>I intended to build a bandpass filter, so I need a little better than
>100% error on the iron powder cores. Does anyone know if Amidon is still
>around?
>
>John
>N5RZP

John,

I missed the start of this, but I've wound at least a hundred different
toroids and measured them on good lab equipment. Perhaps I can contribute
some info?

You shouldn't get 100% variation, but 10% is reasonable. You can't wind
any coil to precise value (air core, iron powder, slug tuned, what ever)
without manually setting it on value. As Bruce said, distribute the turns
over the entire perimeter of the toroid to minimize distributed C. My own
experience has always been that you should subtract 1 turn from the
calculated value for moderately sized inductors (> a few hundred nano-
henries) and you'll end up taking off more turns if you're trying to set a
sub 100 nH coil on value at >70 MHz.

BTW, Amidon just distributed core forms from Micrometals (iron powder)
and Fair Rite (I think - for the ferrite cores). I've heard they're gone,
but don't know for sure. I have the micrometals cores books (Q curves and
all) if you have questions.

73,
Bob

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

3718. Re: design for 1/2" catv hardline z matching lines?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: jvaldes@whoi.edu
Message-ID: <4pakqn$2ep@dilbert.whoi.edu>
Source record: 104746

It took some looking but I found the following reference in my file. Check the September 1978 issue of Ham Radio, there were two articles concerning the use of 75 ohm hardline, the second article gives some specific examples. I can send copies if you need them.

3719. Gunnplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: John Clark <clarkjc@craft.camp.clarkson.edu>
Message-ID: <31B90D7F.267AC53A@craft.camp.clarkson.edu>
Source record: 104747
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I'm going to attempt to modify N6GN's 2 Mbps microwave data link to operate at 10 Mbps. Unfortunately, I don't know where to find a pair of Gunnplexers with electronic tuning (like the M/A-COM units) like he suggests to use. If anyone could help me or has some they would like to sell, please drop me an email. Thanks.

- John (N3IFG)
clarkjc@craft.camp.clarkson.edu

3720. HR-2600 and Transverter Use .. Need Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <4pbsnm$61b@buffnet2.buffnet.net>
Source record: 104748

Greetings,

QST published some info on the 2510 but I'm looking for 2600 stuff.
The QST article specifically stated the mods apply to the 2510 not the
2600. Purchased the unit second hand so I do not have any docs
(schematics) yet.

Thanks

Dave

3721. Re: Empirical HF Receiver (long)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4pbhp8$t80@nadine.teleport.com>
Source record: 104749

In article <4p9vrf$mg9@crash.microserve.net>,
jackl@pinetree.microserve.com (WB3U) wrote:

>I am also experimenting with monolythic capacitors as
>replacements for NPO discs, but I'm concerned about their
>dielectric stability. Does anyone know if the
>characteristics of these capacitors is likely to change
>significantly with age?

Monolithic capacitors are very widely used in industry, including by test equipment manufacturers who are very sensitive to reliability issues. I used monolithic NP0 capacitors in the oscillator of my little "Optimized" transceiver built about 1979, and several other rigs built since then. If any of the oscillators drift more than when they were built, the change hasn't been enough to notice.

Roy Lewallen, W7EL

3722. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4pbi6h$t80@nadine.teleport.com>
Source record: 104750

In article <31B8F30E.14B9@crpl.cedar-rapids.lib.ia.us>,
"William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us> wrote:
>Bob Lombardi wrote:
>
>> BTW, Amidon just distributed core forms from Micrometals (iron powder)
>> and Fair Rite (I think - for the ferrite cores). I've heard they're
gone,
>> but don't know for sure. I have the micrometals cores books (Q curves
and
>> all) if you have questions.
>
>
>Can you tell me what this statement means? Can't figure it out.
>
>Thanks,
>Bill W0IYH

Amidon is, or was, a reseller -- they don't manufacture cores. Unless
something has changed in the past several years, the powdered iron cores
they sell are manufactured by Micrometals; the ferrite cores by Fair-Rite.
They've always used the part numbering scheme of these two manufacturers.

Roy Lewallen, W7EL

3723. Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: Bill Meara <w.meara@codetel.net.do>
Message-ID: <4pbrvv$4t7@server2.codetel.net.do>
Source record: 104751

I'm trying to throw together a little backup power system that would be capable of running a small TV and maybe a couple of light bulbs. I have a little "RECOTON" 220 Watts inverter (12 vdc to 110 Volts AC). I also have a couple of 5 AMP 13.8 VDC power supplies. I was thinking about buying a deep cycle 12 volt battery and combining these components to make a little system that will keep the house lit up and the TV on during Santo Domingo's frequent blackouts.

Can anyone suggest an easy way in which I can work out a charging arrangement for the battery? It doesn't have to be automatic - we could manually shut off the charging voltage.

Will this system work? Any suggestions would be much appreciated.

73 Bill N2CQR/HI8

3724. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <31B988C9.332F@crpl.cedar-rapids.lib.ia.us>
Source record: 104752

Roy Lewallen wrote:
>
> Amidon is, or *WAS*, a reseller -- they don't manufacture cores. Unless
> something has changed in the past several years, the powdered iron cores
> they sell are manufactured by Micrometals; the ferrite cores by Fair-Rite.
> They've always used the part numbering scheme of these two manufacturers.

I have bought cores from Amidon just in the past week, and a 1995 edition
of their detailed manual, so they seem to be very much in business. Does
someone believe they are on the way out of business?

Bill W0IYH

3725. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: Woody White <woody.white@worldnet.att.net>
Message-ID: <4pbt2d$6i1@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104753

Bill Meara <w.meara@codetel.net.do> wrote:
>I'm trying to throw together a little backup power system that would be
>capable of running a small TV and maybe a couple of light bulbs. I have
>a little "RECOTON" 220 Watts inverter (12 vdc to 110 Volts AC). I also
>have a couple of 5 AMP 13.8 VDC power supplies. I was thinking about
>buying a deep cycle 12 volt battery and combining these components to
>make a little system that will keep the house lit up and the TV on during
>Santo Domingo's frequent blackouts.
>
>Can anyone suggest an easy way in which I can work out a charging
>arrangement for the battery? It doesn't have to be automatic - we could
>manually shut off the charging voltage.
>
>Will this system work? Any suggestions would be much appreciated.
>
>
>73 Bill N2CQR/HI8
>

You may also try posting to: alt.solar.photovoltaic for more info...

I have wondered about finding/using discarded UPS sys for PCs. Haven't
checked around...

There are smart battery charger chips out there, believe QST had article
in past few years... cannot locate... You might check out Maxim chip:
MAX712/MAX713. Last know # 800 998-8800 Sunnyvale, CA USA

73 Woody WB4QXE

3726. H A M F E S T and Computer Fest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: Samuel Geller <sgeller@mail.bcpl.lib.md.us>
Message-ID: <Pine.SOL.3.93.960608100339.25630M-100000@mail>
Source record: 104754

```
-----------------------------------------------------------------
| The Famous BRATS Maryland |
| |
| H A M F E S T and C O M P U T E R F E S T |
| |
| Sunday July 28, 1996 |
| |
| At the Maryland State Fairgrounds, Timonium, MD |
| (On York Road, just North of the Baltimore Beltway (695)) |
| |
| Air Conditioned Building LARGE Tailgating Area |
| |
| Plenty of Free Parking |
| Accessible to the Handicapped |
| For Information, or table reservations, call (410)467-4634 |
| OR brats@smart.net OR our home page: http://smart.net/~brats |
| |
| Talk-in on the BRATS Repeater System 147.030(+) and 224.960(-) |
-----------------------------------------------------------------
```

3727. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: Nick Button <nick@plains.demon.co.uk>
Message-ID: <834268978snx@plains.demon.co.uk>
Source record: 104755
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

Thanks to everybody who replied...

I found a motorola IC MC1330P which is used for video detection, it appears to be some kind of limiter/product detector. I tried a lash up using a 455khz ceramic resonator used from an FM discriminator circuit and it seemed to work well on the bench signal generator.

Next step is to try it on moy home-brew RX.....

+--------------------------------------+
| Nick Button, Nottingham U.K. |
| email:- nick@plains.demon.co.uk |
| ham radio:- G4IRX @ GB7NOT.#23.GBR.EU |
| fax:- +44-115-956-1489 |
+--------------------------------------+

3728. Re: PCB Manufactures in UK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: Nick Button <nick@plains.demon.co.uk>
Message-ID: <834269223snx@plains.demon.co.uk>
Source record: 104756

In article <708624708wnr@kascade.demon.co.uk>
Matthew Bailey <matt@kascade.demon.co.uk> writes:
> I am looking for a company in the UK to make a PCB for me. In the past
> I've made my own PCB's but my designs are becoming more and more
> complicated and I do not have the proper facilities at home. I would be
> grateful if anyone could send me any details or recommend any companies
> that I might be able to use. The PCB will be a 2 layer design with
> through platted holes and a silk screen.

Suggest you try Badger Boards in Solihull, West Mids. Don't have the
phone number to hand but they advertise in Short Wave Magazine and
Practical Wireless among others...

Good Luck,

+--------------------------------------+
| Nick Button, Nottingham U.K. |
| email:- nick@plains.demon.co.uk |
| ham radio:- G4IRX @ GB7NOT.#23.GBR.EU |
| fax:- +44-115-956-1489 |
+--------------------------------------+

3729. Re: Kenwood TS440s RS232 Upgrade

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4pcat8$59t@news.calweb.com>
Source record: 104757

The installation manual for the Kenwood IC-10 interface kit says the interface chips are uPD8251AFC and TC4040BP. One each are required and I believe they are readly available.

I always intended to connect one of my computrers but still haven't got around to it.

Bill K7NOM

3730. Info Wanted On Old Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: David Ward <dward@limestone.kosone.com>
Message-ID: <31B9B32D.3BEB@limestone.kosone.com>
Source record: 104758

I'm wondering if anyone has any info on the following radio:

Manufacturer Pye Electronics
Model G-F60 FM.V (It's hard to read the "G", may be something
else.)
Power 110V Power Input
Type 294561/1
DOT Approval 104264119

This is a fairly old (but seems to be all solid state) unit that was
purchased at a charity auction about a year ago. Any information
(original use, frequency, power, etc) would be appreciated.

Thanks.

Dave VE3BIP

3731. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4pcnbf$m77@crash.microserve.net>
Source record: 104759

Bill Meara <w.meara@codetel.net.do> wrote:

>Can anyone suggest an easy way in which I can work out a charging
>arrangement for the battery? It doesn't have to be automatic - we
>could manually shut off the charging voltage.

If manual switching is OK, I would use an inexpensive trickle
charger designed for automotive use. If the outages are so
frequent that a faster rate of charge is required, there are
larger models that can be left connected all the time (except
perhaps when the power dies).

73,
Jack WB3U

3732. Simple Radar Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: Angus Ross-Thomson <101612.2244@CompuServe.COM>
Message-ID: <4pcps4$d9$1@mhade.production.compuserve.com>
Source record: 104760
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Does anyone know of a design for a simple broadband radar
detector?

I would like to pick up pulse radars between 2 GHz and 10 GHz at
approximately 5 miles. I think the best design might be a
crystal video receiver with a cavity backed spiral antenna
(archimedean or equi-angular).

The design of the antenna would act as a broadband pass filter.
But I am not sure how to match the antenna to the detector or
how to bias the detector to improve its performance.

Can anyone help, or know of a good book?

Regards

--
****
* Angus Ross-Thomson 101612.2244@compuserve.com *
****

3733. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: Stephen Parry <sparry@rahul.net>
Message-ID: <4pd31n$q36@samba.rahul.net>
Source record: 104761

I have a similar set up for my aquarium pumps, a 300watt inverter, two deep cycle marine batteries in parallel, and a regular "automatic" automobile battery charger to keep the batteries charged.

You can do all the switching with a 110 vac coil 3 pole change over power relay, I used the 11pin "octal style" plug in type.

The coil is energised from the 110v line. Two of the poles change over the pumps from the line to the inverter output, the 3rd pole is wired across the inverter on/off switch (which in all the consumer type inverters I've played with carries only low current, not the inverter supply current) to turn the inverter on when the line fails.

The charger is just connected permanently to the batteries and is the type that drops automatically to trickle charge once the batts reach a certain voltage.

Stephen

Bill Meara (w.meara@codetel.net.do) wrote:
: I'm trying to throw together a little backup power system that would be
: capable of running a small TV and maybe a couple of light bulbs. I have
: a little "RECOTON" 220 Watts inverter (12 vdc to 110 Volts AC). I also
: have a couple of 5 AMP 13.8 VDC power supplies. I was thinking about
: buying a deep cycle 12 volt battery and combining these components to
: make a little system that will keep the house lit up and the TV on during
: Santo Domingo's frequent blackouts.

: Can anyone suggest an easy way in which I can work out a charging
: arrangement for the battery? It doesn't have to be automatic - we could
: manually shut off the charging voltage.

: Will this system work? Any suggestions would be much appreciated.

: 73 Bill N2CQR/HI8

3734. Re: A quick soure of valve data sheets.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: pshinman@freenet.edmonton.ab.ca
Message-ID: <4pd3e2$np6@news.sas.ab.ca>
Source record: 104762

Send them a question and they will reply with a lot of stuff. They just
don't have it on-line yet.

Dave Kirkby (davek@medphys.ucl.ac.uk) wrote:
: J< deleted text >
: They also indicate some applications notes will be available soon.

: Shame Eimac dont do that - there is not much at eimac.com.

: ---
: Dave Kirkby
: Dept of Medical Physics,
: University College London,
: 11-20 Capper St,
: London WC1E 6JA
: Tel: 0171-209 6406
: Fax: 0171-209 6269
:

--
PAUL HINMAN email: pshinman@freenet.edmonton.ab.ca EDMONTON, ALBERTA, CANADA
Compuserve 72632,2674

The Tree of Liberty must be refreshed from time to time with the blood of
patriots. - Thomas Paine

3735. Re: Icom HM-23 mic pinout

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-08 00:00:00 UTC
From: torsten@dl1fy.rhein-neckar.de
Message-ID: <DsoF2M.135@dl1fy.rhein-neckar.de>
Source record: 104763

Dj Merrill <deej@vsl.ist.ucf.edu> writes:

>Anyone have the pinout for an Icom HM-23 mic, or one of the
>Icom radios that it plugs into?

Here you are, Dj:

Front view of the mic socket.

1 o ^ o 7 1 - mic input
2 o o o 6 2 - +8V DC output, 10mA max.
3 o o o 5 3 - freq. up/down (gnd = up, gnd thru 470 Ohm = dwn)
4 4 - squelch switch (opens on low, closes on high)
5 - PTT
6 - PTT ground
7 - mic ground
8 - (center pin) AF output

Specs taken from the ic737 manual.

--
Torsten Leibold (DL1FY) Mail: root@dl1fy.rhein-neckar.de
Konrad-Adenauer-Allee 105 AX25: dl1fy@db0ge.#sar.deu.eu
68519 Viernheim, Germany AMPR: 44.130.24.87

3736. Re: How do you weld solder tabs onto NiCd batteries? How do you solder to stainless tabs?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <4pddgp$rd8@hobbes.cc.uga.edu>
Source record: 104764
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.repair

Clifford Buttschardt (cbuttsch@slonet.org) wrote:
: There is really no great amount of danger spot welding tabs! They usually
: are made of pure nickel material. I put two sharp pointed copper wires in
: a soldering gun, place both on the tab in contact with the battery case
: and pull the trigger for a short burst. The battery remains cool. W6HDO

Of course! A soldering gun is a source of about 1.5 V at 100 A RMS.
Should make a fine spot-welder. You should write that up for QST
("Hints and Kinks") or better yet, send it in a letter to the editor
of _Electronics Now_ (the magazine I write for).

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A. not speaking for the University.

3737. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: tsimpson@iglou.com
Message-ID: <Dsppyt.JB4@iglou.com>
Source record: 104765

A friend of mine has a cabin set up to run completely on 12 vdc. The lights are 12 bulbs used in automotive trouble lights and all of his "neccessary" equipment is all 12 vdc as well. Then you don't have to worry about running the batteries down as fast, OR burning up an inverter. He has a car alternator on an old push mower deck that he takes with him every now & then to charge the battery system.

Just using 12vdc instead of 12vdc to 110 AC is a lot easier on the pocket as well.

Hope this helps.

Tom & Cassandra Simpson
tsimpson@iglou.com
KF4GKW & KF4GKX

3738. Re: Gunnplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4peo9i$fn@news.calweb.com>
Source record: 104766
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

John Clark <clarkjc@craft.camp.clarkson.edu> wrote:
>I'm going to attempt to modify N6GN's 2 Mbps microwave data link to
>operate at 10 Mbps. Unfortunately, I don't know where to find a pair of
>Gunnplexers with electronic tuning (like the M/A-COM units) like he
>suggests to use. If anyone could help me or has some they would like to
>sell, please drop me an email. Thanks.
>
>- John (N3IFG)
>clarkjc@craft.camp.clarkson.edu

Door opener/alarm Gunn sources are easy to find but to FM modulate
them you have to vary the Gunn voltage. 10 MBS should be easy to do
and the equipment is cheep. I don't have QST at hand so can't quote
but there should be advertisement for the units you asked about.

Bill K7NOM

3739. Re: Mac Packet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: lewis@phoenix.net
Message-ID: <lewis-0906961036340001@dial92.phoenix.net>
Source record: 104767

In article <4ot6i1$ag6@horn.wyoming.com>, Nick <simba@uwyo.edu> wrote:

>Anyone know where to find or have plans for a TNC/Packet modem for the
>Macintosh via the 8-pin serial port?
>
>Thank you,
>
>Nick
>KC7OJX

For Sale

MFJ 1276 Packet/Pactor Controller

Operates HF/VHF Packet and Pactor
Recieves FAX with optional MFJ software
Built in memeory expansion socket
Expanded 32k Mailbox - expandable to 512k
64K battery backed up RAM
20 LED Precision Tuning Indicator
TAPR TNC-2 compatible
KISS interface for TCP/IP, MSYS Compatible
Upgradable to 9600 for $103
Selectable 19,2k DTE
Side tone amplifier and volume control
RS-232 and TTL serial ports
HF/VHF Select Switch
AC adaptor and Manuals
It is in pefect, like new condition.
It is in original box and packing material.
Works and looks perfect.

Price $120.00 plus shipping

--
Lewis P. Stephens Jr. KC5PSX (Amateur Radio Callsign)
Amber, Inc. CLARC (Clear Lake Amateur Radio Club)
lewis@phoenix.net NAMU (NASA Area Macintosh Users)
LewisS3@AOL.com
73404.1403.compuserve.com

3740. Re: Gunnplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4pet6j$lon@shellx.best.com>
Source record: 104768
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <31B90D7F.267AC53A@craft.camp.clarkson.edu>,
John Clark <clarkjc@craft.camp.clarkson.edu> wrote:
>I'm going to attempt to modify N6GN's 2 Mbps microwave data link to
>operate at 10 Mbps. Unfortunately, I don't know where to find a pair of
>Gunnplexers with electronic tuning (like the M/A-COM units) like he
>suggests to use. If anyone could help me or has some they would like to
>sell, please drop me an email. Thanks.
>
>- John (N3IFG)
>clarkjc@craft.camp.clarkson.edu

I think you can still get the M/A-Com units from Advanced Receiver
research. They are a bit costly though.

I believe someone suggested the gunn units used in motion detectors.
I would shy away from these in a 10Mb application. Directly modulating
a Gunn diode barely results in good video for my ATV applications.
High speed data would be even more demanding.

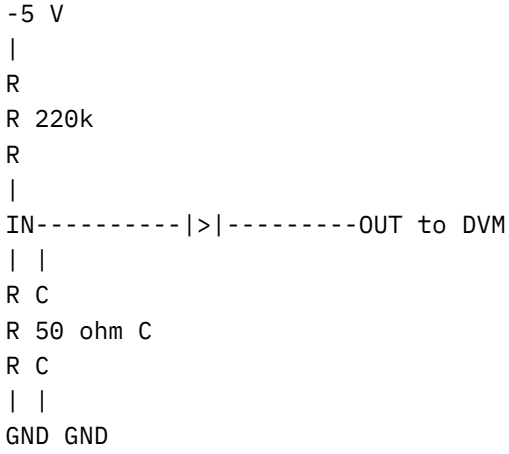
Steve Muther WF6R

3741. biased diode, almost no effect??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: maxie@xs4all.nl
Message-ID: <4pevkt$ie3@news.xs4all.nl>
Source record: 104769

Hi,
In Dubus technik III there is an article about an automatic power/ VSWR meter. This meter works with a directional coupler from EME. This coupler has a good directivity. To benefit from that, the diodes connected to the pick-up lines should have a large useable range. The article states that with the diodes used without any bias current, they are only linear over a 12 to 30 dBm range. with 20 uA bias current though, they should be linear from -5 to 30 dBm.
Now I have been using a simple milliwatt meter with a single 0-25 mW range for quite a while and would like to build something more fancy. I thought the idea of such a biassed diode would be nice because with such a large linear range I could use the same scale for the 10 100 and 1000 mW ranges (and a second one for 30 300 mW).
Anyway, the article doesn't specify what diodes are used, since they are supplied with the coupler. So I make a little test setup to try a few diodes and see what they behave like.
And here (at last) I come to the point of my question. I didn't get much improvement at all! In the range 0 to +20 dBm I could only see a improvement of 1 dB at a 10 dBm level and 1.5 dB at 0 dBm. According to the graph in the article I would expect 2 and 8 dB at the mentionned levels.
I have tried 2 Schottky diodes 1SS99 and BA481 and a silicon 1N4148 for comparisment purpose. Tha graph says to be for Schottky diodes. Why do my biassed diodes not improve? I have tried various bias currents in the 10 - 100 uA range.

This is the test setup:



With the bias voltage below 0 the current flows from ground though 50 ohm, diode, 220k to -5 point.

At OUT I measure a negative voltage of 70 - 210 mV depending on diode
and bias current, plus the rectified voltage of the input signal.

Any comments are welcome, I don't see where I go wrong here.

Thanks and 73,

M. H. A. Baars = Max PA3GEC = e-mail maxie@xs4all.nl
Interested in: = packet bbs pa3gec@pi8zaa
Homebrew T&M and radio equipment, live music, girls, cats

To invent, you need a good imagination and a pile of junk
-- Thomas Edison

3742. Re: ! June 96 CD-ROM Available !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: amsoft@epix.net
Message-ID: <4pf67h$6ld@coconut.epix.net>
Source record: 104770
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

In article <4pa2o9$shv@nw101.infi.net>, jrouse@dc.infi.net says...
> The far better QRZ disk is available at $12.95
>at many
>outlets.
>73, John KA3DBN
>
>===
>John L. Rouse Packet:ka3dbn@ka3rfe.md.usa.noa
>Capital-Gazette Communications Fax: (301) 464-7027
>Annapolis, Maryland Voice mail: (301) 262-3700 X200
> ========================
>jrouse@dc.infi.net jrouse@capaccess.org
>john.rouse@reporters.net.........................
>

John;

FACTS:

QRZ added 32 New Programs in the June 1996 Issue
AmSoft added 108 New Programs in the June 1996 Issue

QRZ June 1996 has a corrupted file "tfhpn101.zip"
AmSoft tests all its files.

QRZ June 1996 has published damaged data in the call sign data
Check out KC8CSF, KC8CYB,KF4GSM, & N3XGK on your QRZ!
These people were all born on 12/31/99? and got a ticket on 12/31/99??
AmSoft notified the FCC of these flaws on April 22. The FCC fixed them.
It may be a surprise to you, but SAM, BUCKMASTER, & AMSOFT all fixed
the call sign errors before publication this spring , QRZ did not....

So go ahead an spend your $12.95 or the $9.40 they were selling for at Dayton!
You only get what you pay for.....

BTW I also use the flying horse CD and like it.

Pete, KC3TL

3743. Windows DTMF software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: fwhitehurst@ezdial.com
Message-ID: <4pfn0m$ell@news.cais.com>
Source record: 104771
Cross-posted to:
alt.radio.scanner,rec.radio.shortwave,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Could someone point me to a source for Windows DTMF decoder software.
I have a Soundblaster16 & Windows 95. I'm doing some testing & this would
really help me out! Tnx! David.

3744. Re: Want to use optocoupler as RF tranformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4pfnlv$kgd@nadine.teleport.com>
Source record: 104772

I've designed the audio amplifier in my direct conversion receivers to have a 50 ohm input, so no transformer or other matching is required between it and the diode-ring mixer.

A critical characteristic of DC receivers is immunity from AM demodulation. This requires good mixer balance and stong signal-handling capability. If your method sacrifices these, I'd say that the trade is a poor one.

Roy Lewallen, W7EL

3745. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-09 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <31BB8185.608@rrgroup.com>
Source record: 104773

Glenn Sparks wrote:
>
> >First off, you'll need a license if you're going to transmit
> >anything. It'll never work on CB, so you'll have to study up
> >a bit and get your ham license. (No Morse nec, since in
> >this case you'd only be using vhf.)
> >
> >Then look at a subject called "Packet Radio"
> >However, due the large bandwidth needed, switching
> >speeds are rather limited. Can you live with 1200 baud?
> >
> >Uncle Brian VK6BQN
> >
> >
> If you want to do it right, buy 902 Mhz Spread Spectrum Lan cards, runs
> about 2.5 Mb/sec and has a range of a couple of miles, and requires no
> license. A bit costly though.
>
> This is the type of technology I was hoping the new breed of Ham would
> bring to the hobby, but it looks like it has to be from commercial
> vendors right now.
>

Ah yes, AT&T WaveLan 900 and products like the Percom Wireless Bridge do work wonders, 'tis true. One problem with amateur products like this is that most if not all of these spread-spectrum LAN cards use spreading methods and/or sequences that we amateurs are forbidden by FCC regulation from using.

73 de KB9JTT

3746. WANTED: Mac Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: davidm@hous.inmet.com
Message-ID: <DssEAo.GH6.0.-s@inmet.camb.inmet.com>
Source record: 104679

All:

Anyone know of sources for Mac ham radio software on the
Internet?

David

3747. NEOSID coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Erik Finskas OH2LAK <finskase@ee.port.ac.uk>
Message-ID: <31BC302D.33F4@ee.port.ac.uk>
Source record: 104680

Do you know where else than Eisch electronics in Germany are NEOSID
coils available??

Or is there anywhere a table of Neosid coils, their inductances etc.

Erik
--
Erik Finskas M1AAJ & OH2LAK
Email Finskase@ee.port.ac.uk
Lakki@clinet.fi
University of Portsmouth, UK
Department of Electric and Electronic Engineering

3748. Re: CMOS Keyer II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <31BC3592.4A7@staffnet.com>
Source record: 104681
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Dio wrote:
>
> Looking for the CMOS Keyer II kit.
>
> I have an address of:
> Idiom Press
> Box 1025
> Geyserville, CA 95441
>
> Anyone dealt with them?
> Prices?
> Do they have a tele#?
>
> THX
>
> --Dio
> 73 DE KE6WEO
>
> Beacher Tool & Die
> (A Hughe Jorgen Company)
> 1106 2nd St.
> Suite 316
> Encinitas, CA. 92024

I bought a kit last year. No problems - works great. I reduced power requirement by replacing speaker with new Radio Shack piezo-speaker.

3749. Re: Simple Radar Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Paul Mathews <optoeng@whidbey.com>
Message-ID: <31BC3E58.1E6F@whidbey.com>
Source record: 104682
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

Angus Ross-Thomson wrote:
>
> Does anyone know of a design for a simple broadband radar
> detector?
> .....
> Can anyone help, or know of a good book?
> ...

How about simply putting a high performance antenna on an automotive radar detector? Since the advent of laser speed detectors, the older models are available for next to nothing (I'll sell you mine really cheap!). There was a '73' magazine article on modifying them to act as a front-end for a microwave receiver a few years back.
--
Paul Mathews, consulting engineer
AEngineering Co.
optoeng@whidbey.com
non-contact sensing and optoelectronics specialists

3750. Re: Simple Radar Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Rick Miller <rick@DigalogSys.com>
Message-ID: <Pine.LNX.3.91.960610102859.1002B-100000@net.digalogsys.com>
Source record: 104683
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

On 8 Jun 1996, Angus Ross-Thomson wrote:

> Does anyone know of a design for a simple broadband radar
> detector?

In an April issue of Radio Electronics some years back (3 or more)
there was an article on building a "Gravity Wave Detector" or something
to that effect. It was supposed to be an "April Fools" joke, but it
turned out that the way they'd layed it out and the length of the leads
on a capacitor on the input of a high-gain op-amp circuit were just the
thing to detect radar-band signals! So the joke was on them.

Rick Miller

3751. Re: Gunnplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: "joe haas", KE0FF <joeh@rollanet.org>
Message-ID: <4phhfi$h1@gamma.rollanet.org>
Source record: 104684
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <4pet6j$lon@shellx.best.com> Stephen Muther,
stevem@shellx.best.com writes:
>I think you can still get the M/A-Com units from Advanced Receiver
>research. They are a bit costly though.
>
>I believe someone suggested the gunn units used in motion detectors.
>I would shy away from these in a 10Mb application. Directly modulating
>a Gunn diode barely results in good video for my ATV applications.
>High speed data would be even more demanding.

Direct FM of the gunn osc is only good for a couple of mega-bits. The
motion detectors can be modified for electronic tuning by placing a
varactor into the gunn osc cavity. This is tricky, but if done
carefully, can save several hundred $$$. The varactor isn't critial, a
garden variety 1N914 can even be used. The trick is getting the varactor
into the cavity while not allowing any microwave energy out -- *and*
the feedthru must allow several MHz of bandwidth, so a garden variety
feedthru cap isn't the best choice. Fortunately, it doesn't take too
much LC to attenuate 10GHz.

Joe Haas
KE0FF

3752. Re: Gunnplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4php08$g5e@blixen.aquilagroup.com>
Source record: 104685

>I believe someone suggested the gunn units used in motion detectors.
>I would shy away from these in a 10Mb application. Directly modulating
>a Gunn diode barely results in good video for my ATV applications.
>High speed data would be even more demanding.

N6GN said you need to remove a de-coupling cap from across the gunn
diode, mounted inside the 'plexer. You did this, right?

3753. Heath HW-8 tuning cap

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Joe Carcia <jcarcia@arrl.org>
Message-ID: <4phoqb$q86@mgate.arrl.org>
Source record: 104686

Hi.

I recently picked up an HW-8 MINUS the main tuning capacitor.
I have the manual, but all it lists is a part number--no cap value.

Would anyone happen to know what the value is for this part? Or,
maybe someone at Heath I can contact? Any telephone number or fax?

Thanks!

73,

Joe, NJ1Q

(please respond to nj1q@nai.net)

****
Joseph P. Carcia III, NJ1Q

AX-25: NJ1Q@W1EDH.CT.USA.NOAM
Internet: nj1q@nai.net
TCP/IP: NJ1Q-1@N1LMP-9.AMPR.ORG

"Why can't MAN be more like ANIMALS?" -- Pink Panther
****

3754. Re: Microwave ovens - anyone know the HT ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: khodges@cix.compulink.co.uk
Message-ID: <Dssp6E.4x2@cix.compulink.co.uk>
Source record: 104687

The last two microwaves I took to bit's contained a 2.5Kv transformer at
1 amp one of which is running one of my linear's

Kevin Hodges
khodges@cix.compulink.co.uk
G0CHI@GB7VRB.#38.GBR.EU

3755. Re: Gunnplexers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4phs1a$ch9@shellx.best.com>
Source record: 104688

In article <4php08$g5e@blixen.aquilagroup.com>,
Kevin AstirCS "1U" KO0B <kferguson@aquilagroup.com> wrote:
>
>>I believe someone suggested the gunn units used in motion detectors.
>>I would shy away from these in a 10Mb application. Directly modulating
>>a Gunn diode barely results in good video for my ATV applications.
>>High speed data would be even more demanding.
>
>N6GN said you need to remove a de-coupling cap from across the gunn
>diode, mounted inside the 'plexer. You did this, right?
>
>

Yes, that was an obvious fix. The limitation is the limited mod. index
you can acheive by modulating a Gunn directly. That, in combination
with the simultanious AM and FM modulation which results makes a
real mess out of your digital modulation (and in my case video).

Steve M.

3756. CMOS II and III de Idiom Press

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: adams@chuck.dallas.sgi.com
Message-ID: <4phsj4$3ai@murrow.corp.sgi.com>
Source record: 104689

Gang,

I realize that this is not totally homebrew, but some consider doing a kit as homebrew, so I thought that I would just post all the facts and let them fall where they may. :-)

Idiom Press, Box 1025, Geyserville, CA 95441

CMOS II listed as $48 US, $50 DX postage paid

CMOS III listed as $58 US, $60 DX postage paid

MO or check, no plastic, i.e. credit cards.

I have both. I'd personally recommend you go ahead and spend the extra ten bucks. IMHO.

The newer model is smaller and has more memory and can be powered off and come back in same state.

I have a new WBL Designs Iambic Paddle designed and sold by W9WBL, Stan Hails Jr, 6345 Coffman Road, Indianapolis, IN 46268-2591 (800) 726-8936 for orders M/C es Visa, no CODs. Iambic Model V2L sells for $105 pp US. For non-US hams or non-order calls (317) 291-1738 9-5 EST/EDT. Stamp to Stan will get you a flyer.

The reason I bring this up is that it is the best iambic paddle that I own and I have them all but the Mercury. Didn't intend to wind up collecting iambic paddles but I did. IHMO the V2L is the best. It allows me to go 50wpm now whereas before the best I could do sending was about 40 to 45 depending upon the paddle and some worse than that.

The V2L has room in the back for the CMOS III but not the CMOS II as the II has a wider PC board. This in case you don't have one rig you want to mount the keyer into.

I got the paddle at Dayton. Another favorite before this paddle is the Brass Racer Square Base Serial #1, not the one stolen at Dayton before someone goes ballistic. I gave Mitch the idea for the square base and beat on him at Dayton and HamCom last year. :-) Actually pestered him into it. This one I use mobile CW and in the field. I also have the prototype also. .jpg files under

ftp.lehigh.edu:/pub/listserv/qrp-l/pictures/keys and
available through anonymous ftp.

environ1.jpg - Envirotronic paddle, $64.95
environ2.jpg - "" on GM-40 manual next to kit
march.jpg - Mike March paddle, see Dave Ingram's articles $150
mcelroy.jpg - McElroy teardrop straight key next to J-38
racer.jpg - Brass Racer Sq. base # 100901 and numbers changed later
spain.jpg - Made in Spain paddles, email for details as
I have to look it up
viambic.jpg - Vibroplex dual paddle with grey base

Someone want to put these on a web site, be my guest. I did
'em and I have plenty more. :-) If they are too big I can
rescan to 432x288 tiff format for the PC world viewers. I'll
take a picture of the WBL design and store tomorrow. It is different.
Email me for a review writeup I did on QRP-L if interested in details.

OK, now homebrew question. Anyone know of anybody else like Gene Thoma,
N0LSS, and Mike March who mfg's paddles on the side or as a hobby?
They do some nice work and these are usually works of both art and
love for CW. IHMO good buys each and everyone. Budgetary constraints
aside.....

This posting FYI and I don't get anything for the review(s) nor discounts nor
freebies nor ..... Just a satisfied customer.

dit dit

Oh: on the signature:
CP-60 60wpm Samuel F.B. Morse ARRL Bicentennial Code Proficiency Award (the only one)
TMPS Thirty Meter 0.95W Propagation Study I started May 1, 1996
$75 xcvr, $10 antenna, $200 paddle and keyer :-)
--
Chuck Adams (K5FO CP-60) adams@sgi.com
K5FO TMPS 1996 Qs=024 States=17 Confirmed=07 DX=01 (950mW)
AL AZ CA CO FL IL IN MI OK OR SD TN TX UT WA WI WY

3757. Looking for a GE 8950 tube or equivalent

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: sba3020@InfoNET.st-johns.nf.ca
Message-ID: <4pi02u$p2u@coranto.ucs.mun.ca>
Source record: 104690

Looking for a GE 8950 tube.

What other tubes are substitutes for the GE (General Electric) 8950 tube?

3758. Re: How do i calculate where to tap my coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Bob Liesenfeld <wb0poq@visi.com>
Message-ID: <31BBE391.647E@visi.com>
Source record: 104691

Jï¿½rgen Jï¿½nsson wrote:
>
> if you know how to calculate how and where to tap my coils
>
> pse jorgen.jonsson@uddeholm.se What coils? What kind of coils. Toroids? More info please.

Bob L. wb0poq@visi.com

3759. Re: Physics of FM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: bpaul@qualcomm.com
Message-ID: <bpaul-1006961422290001@wpaul-toy.qualcomm.com>
Source record: 104692

In article <allancDsAzvn.M5I@netcom.com>, allanc@netcom.com (Allan C.) wrote:

-snip-

> Can anyone tell me what the facts are about how far FM radio can reach
> in the United States? There must be federal regulations on the power of
> the stations and physical limitations due to either the curvature of the earth
> or just the distance which would make it impossible for a signal to
> stretch beyond a given distance. I am in San Diego and am able to
> pick up a Los Angeles station (K-Earth) load and clear, although it may
> break up every now and then. If you live in this area or are familiar
> with Southern California, you know what distnace that is. (Half way Oceanside
> to TJ, I'm in LaJolla). I don't know, I guess it's between 100 and 150 miles
> from here to LA
>
> There's another station (91x) whose broadcast tower is on the hills of Tijuana
> and supposedly doesn't abide by the FCC rules because it's in Mexico..
> So it has a super-strong signal, and my brother said that he was actually able
> to hear them once or twice in Santa Barbara (250 miles?).
> My father says that's doubeful due to physical limitations.

By the way you worded that, you make it sound as if 91X is breaking the
law. Just in case you don't understand this, let me clarify. 91X (XTRA
91.1) is a broadcast station located in Tiajuana, Mexico. They are subject
to, and abide by the Mexican equivalant of the FCC. Our FCC only has
juristiction over US broadcast stations.
They are allowed to use 100,000 Watts (100KW, and they use it), and are
also allowed to direct that radiation, which is generally not allowed with
FM broadcast here in the US. They direct most of there raiadtion north,
towards the US. (For others that aren't from around here, their format is
80s and 90s alternitive rock, and the DJs speak english. There only
requirement is they have to play 1 hour of Mexican government programming
on Sunday night -in spanish)
It is not unreasonable to hear 91X in LA. When I used to listen to them, I
could hear them all the way into Hollywood (200 miles) and have heard them
as far as Death Valley (400 Miles).
>
> There's a third station (102.1) which is located in Oceanside, border between
> San Diego and Orange counties. That's probably only 100 miles from L.A.
> Maybe less, depending on how you count Los Angeles. Would you expect
> to be able to hear that station well into LA?
> I have no problem (or little problem) getting them here in LaJolla
> (30 miles?) but in Hillcrest (another 15 -- 45 or 50 miles?) the signal
> started to break up.

102.1 is located in Oceanside and only has a 10KW transmitter and an
omnidirectional antenna. That is all their license allows, so their
coverage isn't nearly as good as 91X.

>
> Finally, there's one more station (100.3 I think) which is KBAY I think
> in the San Francisco bay area, which I have been able to hear all the way
> down 101 to Gilroy or even due East of Monterey.
> I am not sure how far this is -- maybe 130-150 miles?
>
> My father has assured me that there MUST be a repeated somewhere in
> order for that signal to reach so far.
>
> So what's the deal? Is there a magic number of miles (1) that an
> average-to-strong signal (2) can travel and be picked up by a reasonably
> good receiver? (3)
> What about a station which doesn't pay attention to FCC limits? (4)
>
There's no magic number, but the main factors such as Altitude of the
transmitter and reciever, radiated power, terrain inbetween Tx and Rx.
You not hearing any kind of skip or tropospheric ducting on FM. The trip
to Santa Barbara for 91X is easy becuase it's over the water and there is
nothing to block the signal. The trip for KBAY may be helped out by
[insert proper name here] ducting where the water evaporating creates a
path for the radio wave. It's kind of like fiber optics where there are
different densities of medium and the wave always wants to bend (refract)
towards the center, or in this case, just above the water.

> Please let me know if this should be re-posted elsewhere or if I should
> look in a reference at a library.

You might try rec.radio.broadcasting for more answers.

>
> Thanks
>
> -Allan
> allan@carhart.com
>
> (1) assuming average weather conditions --probably more sunny days than cloudy
> ones in North and South California

Someome may correct me on this, but I don't think weather has much effect
at these frequencies.

> (2) assuming the radio station is within the FCC limits but at the high end

The US FCC issues licenses of different power these days. Some old
stations that have been on the air for 30 years have 50KW transmitters,
but newer commercial stations are getting licsenses for as little as 5KW.

> (3) boom box with analog tuner and/or high-end walkman with digital tuner
> and/or car radio with digital tuner

Antenna is the major factor here. Your car would probably have the best of
any of your examples.

> (4) I would assume that 91x (91.1) doesn't exceed federal limitations
> by too much due to either financial limitations or Mexicon Government limits.

Again, see above. Also note that the Mexican goverment's 'FCC' is tougher
than ours when it comes to enforcment. One foul language incident can take
you off the air!

> --
> --
> "The most difficult thing in the world is to know how to do a thing and
> to watch someone else do it wrong without comment."
> -- Theodore H. White

Bill Paul KF6BBL San Diego,CA bpaul@qualcomm.com
Disclaimer:
The above post is the opinion of Bill Paul, not Qualcomm Inc.

3760. auto tuner, AT-11, Jan 96 QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Robert <rcollins@edcen.ehhs.cmich.edu>
Message-ID: <4pibmc$2q2@ramp2.tir.com>
Source record: 104693

hello all,

can the AT-11 be modified to cover the 6 meter band?? I would like it to
cover the 160-6 meter bands to match my ICOM IC 706

73 de rob n4yhd

3761. Re: Synchronous AM detectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Tom Turnbull <Tom.Turnbull@durham.ac.uk>
Message-ID: <Tom.Turnbull-1006961249560001@mnementh.dur.ac.uk>
Source record: 104694
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.shortwave

In article <833637745snx@plains.demon.co.uk>, Nick Button
<nick@plains.demon.co.uk> wrote:

> Hi,
>
> Does anybody know of any circuits for add-on synchronous detectors for
> AM broadcast reception ?
>
> I keep reading how wonderful they are supposed to work but I'd like to
> put one together and try it myself before I shell out cash on buying a
> new RX...
>

You probably will have seen this by now but this months (July 1996)
edition of
HAM RADIO TODAY has a construction project for an add-on synchronous detector.

I am thinking about building this into a small superhet I will be building
later in the year when I may have more time.

If you build this or any other synch detector I would be interested in how
you rate it.

Check the HAM RADIO TODAY web page at:

http://www.netlink.co.uk/users/hrt/

Tom.

/////// /////// ,///, Tom Turnbull
/// /// /// // University of Durham
/// /// \\\ I T Service
/// /// // /// Science Site, South Road Tel: 01913742884
/////// /// '///' DURHAM, DH1 3LE, England FAX: 01913743741

3762. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Jeff DePolo WN3A <depolo@intermediainc.com>
Message-ID: <31BBA144.D24@intermediainc.com>
Source record: 104774

Will Flor wrote:
>
> Glenn Sparks wrote:
>>
>> If you want to do it right, buy 902 Mhz Spread Spectrum Lan cards,

> Ah yes, AT&T WaveLan 900 and products like the Percom Wireless Bridge do
> work wonders, 'tis true. One problem with amateur products like this is
> that most if not all of these spread-spectrum LAN cards use spreading
> methods and/or sequences that we amateurs are forbidden by FCC regulation
> from using.
>
> 73 de KB9JTT

Why? The SS LAN cards are Part 15 devices. There's nothing in Part 15 (or Part 97 for that matter) that says they can't carry traffic from the amateur service yet still operate under Part 15 is there? Maybe I'm missing something obvious here, but I don't see why there would be a problem letting the SS LAN card operate as a Part 15 device even though its carrying amateur radio traffic.

(Scenario) Assume I'm not a ham. I buy a pair of SS LAN cards. I connect one side of the link to a machine that has a TNC connected that picks up amateur packet traffic off 145.03 using a scanner. I have all monitored ham traffic go across the SS LAN link. I haven't transmitted on 2m, and I'm operating the SS LAN cards under Part 15, so it's cool. Then I get my tech license (with code of course ;-)). Just because I got my ham license doesn't void the Part 15 status (or legality) of the SS LAN link. I do need my ham license to transmit on 2m, of course, but not to operate the 900 MHz Part 15 link. Am I right?

FWIW, I've used Telesystems ARLAN III cards as well as AT&T (formerly NCR) WaveLAN cards in several commercial installations and they've worked well. In one installation, the yagi connected to the WaveLAN card was about 30 yards away from a cell site. I had to use a custom-built combline filter from Tx/Rx (902-928 MHz) to get enough selectivity to keep the nearby cell site from hammering the card.

--
-=-
Jeff DePolo WN3A
Net: depolo@intermediainc.com
Twisted Pair: H:610-337-7383 W:215-387-3059 x300
RF: 442.1+ 442.2+ 442.4+ 443.45+ 443.8+ 444.15+ linked

3763. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4pgen4$4n4@crash.microserve.net>
Source record: 104775

This thread has reminded me of something I haven't thought about in a long time.

About twenty years ago, I was discussing self-sufficiency with a friend who was familiar with a number of different non-electrical technologies. He had concluded that if one could obtain all the necessary parts, the best way to generate and store power on a small scale would be compressed air.

The general concept would be to use a windmill or turbine, but instead of generating electricity, the unit would turn an air compressor that would pressurize an underground tank. Because electricity isn't involved in the generation and storage of the power, the primary maintenance cost, i.e. storage batteries, would be eliminated.

The primary drawback to such a system is, of course, how to use the compressed air to power electrical equipment. To produce electricity, a fairly large "air motor" would be required in order to drive a generator of decent size.

Does anyone know if there have been any developments in this field, and whether off-the-shelf components are available for such a system?

73,
Jack WB3U

3764. Re: ! June 96 CD-ROM Available !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: rwilkins@ccnet.com
Message-ID: <4pggn8$ij@ccnet2.ccnet.com>
Source record: 104776
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

KC3TL (amsoft@epix.net) wrote:

: QRZ added 32 New Programs in the June 1996 Issue
: AmSoft added 108 New Programs in the June 1996 Issue

Most of these programs are available here on the 'net.

: QRZ June 1996 has a corrupted file "tfhpn101.zip"
: AmSoft tests all its files.

Wow!

: QRZ June 1996 has published damaged data in the call sign data
: Check out KC8CSF, KC8CYB,KF4GSM, & N3XGK on your QRZ!
: These people were all born on 12/31/99? and got a ticket on 12/31/99??
: AmSoft notified the FCC of these flaws on April 22. The FCC fixed them.
: It may be a surprise to you, but SAM, BUCKMASTER, & AMSOFT all fixed
: the call sign errors before publication this spring , QRZ did not....

Four birthdays are wrong!! did you send them cards??

: So go ahead an spend your $12.95 or the $9.40 they were selling for at Dayton!
: You only get what you pay for.....

They were at Dayton and do not "Spam the newsgroups with their commercial
messages" every time they have an update.

: BTW I also use the flying horse CD and like it.

nitpicker and spammer you know the proper place is rec.radio.swap

: Pete, KC3TL

Bob
--
Bob Wilkins home n6fri@uhf.org
Berkeley Hills, California work bob@cave.org
CM87uv play n6fri@n0ary.#nocal.ca.usa.noam

3765. am7911 modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Lu Hui-Hua <gzluhuih@public1.guangzhou.gd.cn>
Message-ID: <31BAF730.6127@public1.guangzhou.gd.cn>
Source record: 104777

Everybody, here is BG7IX, from P.R.CHINA, and my interesting
is DO IT SELF.
Now, i will make a modem (use AM7911 modem chip) for redio,
and use Baycom terminal software to control it. who can give me
anything about it? (include circuit diagram), please give me
response OK? thanks.
73 & GOOD LUCK!
bg7ix:Lu Hui-Hua
E-mail:bg7ix@amsat.org
or:gzluhuih@public1.guangzhou.gd.cn

3766. Reflex Clystron

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-10 00:00:00 UTC
From: Anders Hagen <Anders.Hagen@microdesign.no>
Message-ID: <31BC1E69.AE2@microdesign.no>
Source record: 104778

Seeking pinout data for Reflex Clystron tube VA-417c from VARIAN

Please e-mail:

anders.hagen@microdesign.no

3767. HP 4805A Vector Impedance Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: dturner@pacbell.net
Message-ID: <4pifin$556@news.snfc21.pacbell.net>
Source record: 104695

I recently purchased one of these very useful instruments at a very good price. The problem is, I didn't get a manual or probe. Does anyone have a manual that could be borrowed, or question answered from?

Judging from the connector, I would assume the probe has active circuitry, and therefore will have to be located and purcahsed or possibly constructed. Any one have a clue?

.....Don Turner WA6WRX

3768. HP 4805A Vector Impedance Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: dturner@pacbell.net
Message-ID: <4piptc$772@news.snfc21.pacbell.net>
Source record: 104696

I recently purchased an HP 4805A for a very good price. One problem is there was no probe or manual with the deal.

I have some experience using this piece of gear and remember the probe having some active circuitry. This will have to be found and purchased or built.

The question is, does anyone have a manual from which I could get some information. Please send mail if you have information on this piece of gear or a manual. Thanks.....Don Turner WA6WRX

3769. NEED PLANS FOR 432MHZ ONMI ANTENNA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <4pj5rh$sep@ns1.iamerica.net>
Source record: 104697

Hello,
Looking for plans to build a broad band Onmi Antenna for 430Mhz. I
plan on building 4 of them for ATV use. Please email me.

dwhowell@iamerica.net

3770. WTB: ATV GEAR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <4pj5ov$sep@ns1.iamerica.net>
Source record: 104698

Hello,
Still looking for good used ATV gear. All bands and modes. Please
email me as to what you have available.

dwhowell@iamerica.net

3771. Looking for HR-2600 Transverter Mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: daveb@buffnet.net
Message-ID: <4pjhto$5v0@buffnet2.buffnet.net>
Source record: 104699

Greetings,

QST published some info on the 2510 but I'm looking for 2600 stuff.
The QST article specifically stated the mods apply to the 2510 not the
2600. Purchased the unit second hand so I do not have any docs
(schematics) yet.

Thanks

Dave

3772. Re: ! June 96 CD-ROM Available !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: kc7gnm@primenet.com
Message-ID: <4pjfal$ho4@nnrp1.news.primenet.com>
Source record: 104700
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

rwilkins@ccnet.com (Bob Wilkins ~ n6fri) wrote:

>KC3TL (amsoft@epix.net) wrote:

>: QRZ added 32 New Programs in the June 1996 Issue
>: AmSoft added 108 New Programs in the June 1996 Issue

>Most of these programs are available here on the 'net.

Besides does amsoft have a callsign server online for free?

>: QRZ June 1996 has a corrupted file "tfhpn101.zip"
>: AmSoft tests all its files.

>Wow!

I guess this guy works for amsoft to know that for sure. Hell I don't
even test all my files that I get off the internet half the time.

>: QRZ June 1996 has published damaged data in the call sign data
>: Check out KC8CSF, KC8CYB,KF4GSM, & N3XGK on your QRZ!
>: These people were all born on 12/31/99? and got a ticket on 12/31/99??
>: AmSoft notified the FCC of these flaws on April 22. The FCC fixed them.
>: It may be a surprise to you, but SAM, BUCKMASTER, & AMSOFT all fixed
>: the call sign errors before publication this spring , QRZ did not....

>Four birthdays are wrong!! did you send them cards??

Wonder why he bought all four different CD roms if qrz is so bad?

3773. Help me build .001 microhenry strip line inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: VE4KLM <slmusr03@MBnet.MB.CA>
Message-ID: <Pine.SUN.3.91.960611092745.13502A-100000@access.mbnet.mb.ca>
Source record: 104701

I am building a 6th order butterworth bandpass filter for the 2 meter band (hoping to kill the intermod problem at my location), but some of the inductors are just too small to wind using conventional air coil designs. I have seen the use of strips of metal to do this, but I do not know the calculations involved. The ARRL book I have shows lots of projects using pieces of wire or strips of metal, but they do not tell you how to calculate the inductance.

Can anyone give me dimensions for a .001 microhenry strip, and also maybe some strip line formulas, so that I can create my own inductors.

Thank you very much,

Maiko
VE4KLM

| SLM Software Inc. |
| slmusr03@SLMSoft.CA |

3774. Re: Expirimental Microwave Transmissions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <31BD79DC.3185@arrl.org>
Source record: 104702

Brian Olliver wrote:
>
> please be careful the frequency of microwave ovens is chosen
> so that it will impart maximum power into anything containing water

I believe this qualifies as a factoid. The lowest water absorbtion
frequency is actually a little below our 24 GHz band.

The frequency is based on 3 factors.
1--Got to keep the RF from leaking out of the oven (door seals).
2--Can't interfere with authorized services.
3--Has to cook food all the way through.

The old ovens were in the 915 MHz ISM band and moved to
2.4 GHz for better door seals. You can actually cook hot
dogs with a 200 watt 2M amp if you put it in a cavity and
tune it up.

Zack Lau KH6CP/1
Anyone for 24 GHz FD skeds? (LOS to Mt Wachusett, FN42BL)

3775. WTB: HEATHKIT/HOMEBREW

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: Frank <fchidsey@nando.net>
Message-ID: <31BDB123.2CDF@nando.net>
Source record: 104703

Hello All,

I just purchased my first HF receiver HR-1680(need the speaker)and HM-102 meter(still need transmitter,amp,etc) I would like to set up a station with all Heathkit and/or other assorted homebrew equipment/kits and would be interested in hearing from other Hams that have done the same. Specifically,I was wondering if Heathkit came out with a transmitter that would especially compliment the 1680. Also, I was wondering if I would be able to use one ofthe TENTEC 6mtr kits(20-6) with this rig.

Any tidbit(s) at all would be greatly appreciated!

73s,
Frank
KD4LSM

3776. Looking for TNC2 Schematic Diagram

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: "Lee, Kwangweon HL1MNU / KE6WQK" <hl1mnu@hl1mnu.ampr.org>
Message-ID: <31BD9A2E.15F2@hl1mnu.ampr.org>
Source record: 104704

Does anybody know where to get it?

Thanks in advance,
--
Lee, Kwangweon (HL1MNU / KE6WQK)

Address: 10501 N. Tantau Av. Loc.201-01 Cupertino, CA 95014-0728 USA
Phone: +1-408-285-4537, Fax: +1-408-285-2380
E-mail: LEE_KW@Tandem.COM | leekw@loc201.tandem.com
hl1mnu@kci.co.kr | hl1mnu@hl1mnu.ampr.org

3777. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4pkbma$27d@abyss.West.Sun.COM>
Source record: 104705

In article <31B988C9.332F@crpl.cedar-rapids.lib.ia.us>,
William E. Sabin <sabinw@crpl.cedar-rapids.lib.ia.us> wrote:
>Roy Lewallen wrote:
>>
>> Amidon is, or *WAS*, a reseller -- they don't manufacture cores. Unless
>> something has changed in the past several years, the powdered iron cores
>> they sell are manufactured by Micrometals; the ferrite cores by Fair-Rite.
>> They've always used the part numbering scheme of these two manufacturers.
>
>
>I have bought cores from Amidon just in the past week, and a 1995 edition
>of their detailed manual, so they seem to be very much in business. Does
>someone believe they are on the way out of business?

Amidon was once run out of the Amidon house garage (I've been there
a few times). They've sold the business, and it changed address
several times over a few years before settling down where it is now.
This made some people think they were defunct, when, in fact, they
still offer excellent service (at least in my experience).

--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

3778. Cell Phones as 23cm HAM Radios??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: Gabe Nemeth <gabe@bnr.ca>
Message-ID: <31BDAE61.6AD9@bnr.ca>
Source record: 104706

Thanks for reading this. If I have posted to the wroing group please
let me know.

With the advent of the new cell phone technologies such as Satellite,
the 'older 900 Mhz cell phones' are more-and-more available on the used
marked (I purchased my Motorola at Dayton for $US 25). I know these cell
phones are programable, but just how programmable may be the question.
These units have a display, battery level indicator, some have 5 Watt
output, keypad entry, to list a few. Motorola has a very high quality
product, surely these phones (or others) can be reprogrammed for FM HAM
use.

Can these cell phones be reprogrammed for the HAM 900Mhz use? If so are
the resources available to do this? If the bandwidth can be changed
imagine the packet applications? Or, is this just a loonie idea?
Cheers,
'73 de VE3SLJ.

3779. Re: CMOS Keyer II

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4pkdke$955@mksrv1.dseg.ti.com>
Source record: 104707
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

>Looking for the CMOS Keyer II kit.
>
>I have an address of:
>Idiom Press
>Box 1025
>Geyserville, CA 95441
>
>Anyone dealt with them?
>Prices?
>Do they have a tele#?

I built this kit back in late 1990 when the QST article first appeared.
Been using it ever since. Excellent keyer. Newer model has upgrades
that mine doesn't. Currently marketed as the K-1 Logikey. Selected by
Kenwood to be standard equipment on the superb TS-870S transceiver
(which I also have, and this is one reason why I bought this rig).
73 de KC5NG

3780. Re: Inductors?!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <31BE01DC.4317@crpl.cedar-rapids.lib.ia.us>
Source record: 104708

Dana Myers wrote:
>
> In article <31B988C9.332F@crpl.cedar-rapids.lib.ia.us>,
> William E. Sabin <sabinw@crpl.cedar-rapids.lib.ia.us> wrote:
> >Roy Lewallen wrote:
> >>
> >> Amidon is, or *WAS*, a reseller -- they don't manufacture cores. Unless
> >> something has changed in the past several years, the powdered iron cores
> >> they sell are manufactured by Micrometals; the ferrite cores by Fair-Rite.
> >> They've always used the part numbering scheme of these two manufacturers.
> > >
> > >
> > >I have bought cores from Amidon just in the past week, and a 1995 edition
> > >of their detailed manual, so they seem to be very much in business. Does
> > >someone believe they are on the way out of business?
> >
> > Amidon was once run out of the Amidon house garage (I've been there
> > a few times). They've sold the business, and it changed address
> > several times over a few years before settling down where it is now.
> > This made some people think they were defunct, when, in fact, they
> > still offer excellent service (at least in my experience).
> >

Quite true, and they are very accommodating to amateur small qty buyers
like me.

Bill

3781. Re: HP 4805A Vector Impedance Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: vinyn1vc@aol.com
Message-ID: <4pkug4$sen@newsbf02.news.aol.com>
Source record: 104709

I do have a manual for the thing, because I was interested in obtaining a unit myself. From as far as i can see, the critical element is the probe. Without it the unit is worthless. After looking at the circuitry of the probe, I can't see an easy way for a hobbiest to construct it.

I would be interested in selling you the manual if you are still interested.

3782. Re: am7911 modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: William Kresl <wmkresl@townsquare.net>
Message-ID: <4pkvl9$bsp@tribune.concentric.net>
Source record: 104710

A less expensive and easier modem to build for
use with the BAYCOM/PMP/EZPACKET software uses
the TEXAS INSTRUMENT TCM3105JL chip. This modem
is programmable for a variety of baud rates and
options. But the 1200baud/half-duplex mode is
used on packet radio. With the addition of a few
components and a crystal, tied into either the
Parallel or Serial port, you are on the air.
The TCM3105JL has been discontinued but they can
still be found at parts houses and in old modem
equipment and TNC's. Good Luck.

Wm Kresl -WB9BBC

3783. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: jim.horner@minfox.com
Message-ID: <834509609@minfox.com>
Source record: 104711

JA>About twenty years ago, I was discussing self-sufficiency
JA>with a friend who was familiar with a number of different
JA>non-electrical technologies. He had concluded that if one
JA>could obtain all the necessary parts, the best way to generate
JA>and store power on a small scale would be compressed air.

JA>The general concept would be to use a windmill or turbine, but
JA>instead of generating electricity, the unit would turn an air
JA>compressor that would pressurize an underground tank. Because
JA>electricity isn't involved in the generation and storage of
JA>the power, the primary maintenance cost, i.e. storage
JA>batteries, would be eliminated.

JA>The primary drawback to such a system is, of course, how to use
JA>the compressed air to power electrical equipment. To produce
JA>electricity, a fairly large "air motor" would be required in
JA>order to drive a generator of decent size.

JA>Does anyone know if there have been any developments in this
JA>field, and whether off-the-shelf components are available
JA>for such a system?

JA>73,
JA>Jack WB3U

Getting a little off from home-built radio, but your post reminded me
of a similar idea I had. I have a sloping property with my well at the
lowest end. I was thinking of using wind-power to pump water into a
cistern at the uphill end, and running a generator off a water-wheel by
returning the water to the well, (abt 50 feet difference in elevation in
this case).

And, while we're off the topic, here's a funny windmill idea... Engine
block mounted upside down on a tower. windmill sails welded to the
flywheel. an extention welded to a con-rod for operating a pump -
alternator left in place for charging batteries. I got this last from an
old-timer who claimed to have built such a thing.

...jim

• OLX 2.1 TD • Once the bugs are ironed out, we'll have lotsa flat bugs

3784. How to reach Anzac Corp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: Robert Masucci <bmasucci@telogy.com>
Message-ID: <31BDDE76.5E45@telogy.com>
Source record: 104712

Does anyone know what happened to Anzac corp?
They were a division of Adams-Russell and made a nice 50-to75 ohm
transformer.

Bob Masucci
bmasucci@telogy.com

3785. Parts on my WEB page

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: c_sieg@conknet.com
Message-ID: <NEWTNews.7087.834541958.c_sieg@PIEXX.conknet.com>
Source record: 104713

Hi All,
I've finally got my WEB page set up and there is a section with electronic components that would be interesting to the homebrew crowd, myself included! If you are interested, check it out.

Thanks
-Chris WA3LDI
URL http://www.conknet.com/piexx

3786. Rochelle crystal growing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: Gerry & Robin Lempicki <lempicki@psych.umass.edu>
Message-ID: <31BD9DCF.6F16@psych.umass.edu>
Source record: 104714

Is anyone familiar with crystal growing? I am interested in crystals for headsets for use wth crystal radios. I would appreciate any info or references. TIA! -Gerry

3787. Re: Cell Phones as 23cm HAM Radios??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-11 00:00:00 UTC
From: emeb@indirect.com
Message-ID: <emeb-1106962132450001@s17.phxslip4.indirect.com>
Source record: 104715

In article <31BDAE61.6AD9@bnr.ca>, Gabe Nemeth <gabe@bnr.ca> wrote:

> Thanks for reading this. If I have posted to the wroing group please
> let me know.
>
> With the advent of the new cell phone technologies such as Satellite,
> the 'older 900 Mhz cell phones' are more-and-more available on the used
> marked (I purchased my Motorola at Dayton for $US 25). I know these cell
> phones are programable, but just how programmable may be the question.
> These units have a display, battery level indicator, some have 5 Watt
> output, keypad entry, to list a few. Motorola has a very high quality
> product, surely these phones (or others) can be reprogrammed for FM HAM
> use.
>
> Can these cell phones be reprogrammed for the HAM 900Mhz use? If so are
> the resources available to do this? If the bandwidth can be changed
> imagine the packet applications? Or, is this just a loonie idea?
> Cheers,
> '73 de VE3SLJ.

I would be _really_ surprised if this is possible. To meet the requirements of the cellular system, the phones need to receive in one frequency range and transmit in another, similar to the way cordless phones work. There are no advantages (and some disadvantages) to designing the Rx/Tx circuits to operate up above the current highest frequency of ~896 MHz.

My guess is that you would need to do some serious re-arranging of the Rx/Tx system in the cell phone to get it to work in the Ham bands - probably not worth it.

I hesitate to mention this, but if you're looking for info on reprogramming cell phones, the current issue of 2600 has some rather detailed info on reprogramming various models of Motorola cell phones. I have no idea how reliable this is and I certainly don't advocate using this for illegal purposes, but if you have one of these phones it could be helpful.

--
Eric Brombaugh KC7GXA
emeb@indirect.com (private)
ericb@sicom.com (work)

3788. Re: Help me build .001 microhenry strip line inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: Jon Jenkins <academic@onthenet.com.au>
Message-ID: <4pnc7r$6nb@corolla.onthenet.com.au>
Source record: 104629

You can use strip or wire. Tell me some more info
like frequency, board material characersitics
(i.e. size, thickness, Er, etc), Q required
and I will work it out for you.

Jon

Name: Academic Technologies Bongaree Rd,
Voice/Fax: 61-7-55-905-008/013 Terranora,
Inet: academic@onthenet.com.au NSW, AUSTRALIA 2486
Web: http://www.onthenet.com.au/~academic
My 3 year old son: "Daddy, why did God put the dinosaurs here first ?"
My 6 year old daughter: "To make it interesting for us!"...think about it
!!

3789. WTB: 19 inch rack mount filament & high voltage power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: Vlad <dvorkin@pcs.mot.com>
Message-ID: <4pnkjc$ovj@trotsky.cig.mot.com>
Source record: 104630

Looking for any (prefer HP) 19 inch rack mount filament voltage (6.3 v AC or DC)
and high voltage adjustable power supply (50 v DC to 300 v DC, 100 mA min.
Please e-mail to Vlad at: dvorkin@pcs.mot.com

3790. Re: Cell Phones as 23cm HAM Radios??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: hjohnson@pluto.njcc.com
Message-ID: <EmllnuoWWZVT079yn@pluto.njcc.com>
Source record: 104631

In article <31BDAE61.6AD9@bnr.ca>, Gabe Nemeth <gabe@bnr.ca> wrote:
*>
*>With the advent of the new cell phone technologies such as Satellite,
*>the 'older 900 Mhz cell phones' are more-and-more available on the used
*>marked (I purchased my Motorola at Dayton for $US 25). I know these cell
*>
*>Can these cell phones be reprogrammed for the HAM 900Mhz use? If so are
*>the resources available to do this? If the bandwidth can be changed
*>imagine the packet applications? Or, is this just a loonie idea?

In that regard, how good are these phones as recievers, say with a
good antenna and LNA attached? My particular interest is in radio
astronomy (non-SETI, just astrophysics stuff) so a wide-band IF is
actually a plus. Ideally I'd like to kick down to the 600 MHz astronomical
allocation, but working upward to 1.4 GHz is probably asking too much.

More to the point, a lot of cell phone chips and such are becoming
available which could be more properly used for this (and ham radio)
applications. A good reference on this kind of "conversion" would be
appreciated.

Herbert R. Johnson voice/FAX 609-771-1503 day/nite
hjohnson@pluto.njcc.com Ewing, NJ (near Princeton) USA

occasional amateur astronomer at odd frequencies and hours
and senior engineer at Astro Imaging Systems: old photons to new bits!

3791. CUM car terminal

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: fyeo@mail.odyssee.net
Message-ID: <4q5502$se9@pegasus.odyssee.net>
Source record: 104632

Does any one know the modulation used and perhaps even the protocol on police car terminals in Montreal, Quebec region?

3792. Re: How to reach Anzac Corp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4pl4i4$ofh@hpscit.sc.hp.com>
Source record: 104716

In article <31BDDE76.5E45@telogy.com>,
Robert Masucci <bmasucci@telogy.com> wrote:
>Does anyone know what happened to Anzac corp?
>They were a division of Adams-Russell

Then they were a division of RHG.

Now they are a division of MA/COM.

A good distributor is Penstock in Sunnyvale at 408-730-0300.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3793. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: jgoecks <jgoecks@pacifier.com>
Message-ID: <4plilh$ani@news.pacifier.com>
Source record: 104717

Jeff DePolo WN3A <depolo@intermediainc.com> wrote:
snip
>
>(Scenario) Assume I'm not a ham. I buy a pair of SS LAN cards. I
>connect one side of the link to a machine that has a TNC connected that
>picks up amateur packet traffic off 145.03 using a scanner. I have all
>monitored ham traffic go across the SS LAN link. I haven't transmitted
>on 2m, and I'm operating the SS LAN cards under Part 15, so it's cool.
>Then I get my tech license (with code of course ;-)). Just because I
>got my ham license doesn't void the Part 15 status (or legality) of the
>SS LAN link. I do need my ham license to transmit on 2m, of course, but
>not to operate the 900 MHz Part 15 link. Am I right?
>
snip
>Jeff DePolo WN3A
>Net: depolo@intermediainc.com
>Twisted Pair: H:610-337-7383 W:215-387-3059 x300
>RF: 442.1+ 442.2+ 442.4+ 443.45+ 443.8+ 444.15+ linked

You may want to check into the legallity of retransmitting radio traffic under
any conditions. I think I remember something about confidentiallity in the
FCC regs.

3794. Re: Microwave oven Magnetrons

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <tuGa$DABwpvxEwTB@briano.demon.co.uk>
Source record: 104718

In article <9605058339.AA833995440@mails.imed.com>, mack@mails.imed.COM
writes
>Brain Olliver offered some interesting comments on this thread which
>were close to the mark, but off a little. I was likewise under the
>impression for a long time that 2400 MHz was chosen to be resonant at
>a frequency for water absorption. This isn't true. Water absorbs up
>in the 120 GHz region (I don't have my references on this at work)
>and one or 2 other regions.
>
>2400 MHz was chosen because the FCC (and others I guess) gives certain
>bands for ISM (industrial, Scientific, Medical) uses. It just happens
>that 2400 to 2450 MHz was a convenient industrial frequency to use
>(and cheap!!). Food absorbs these frequencies, but just not as well
>as it would at the resonant frequency.
>
>Brain's main caveats hit the bullseye. These devices typically put
>out 600 to 1200 watts. This can cook just about any carbon based
>lifeform in short order. These are not to be taken lightly. There is
>an entire chapter in both the ARRL Microwave books regarding safety at
>these frequencies. They give some idea of how far away you need to be
>for a given power level and frequency. It is actually a lot closer
>than you might imagine, but my eyes are my livelihood, so I am *VERY*
>careful with anything above about 144 MHz.
>
>Now after all of the "protect you from yourself" rhetoric, there was
>an excellent article in Volume 1 Number 1 of Communications Quarterly
>magazine. It went into great detail on using a magnetron for a
>transmitter. Brain is probably right that finding a way to pulse
>modulate the beast is the best way to send information. Magnetrons
>are not especially frequency stable (by HF/VHF measures) so you will
>need an AFC circuit at the receivers unless you want to spend
>megabucks for the circulators to injection lock the magnetrons. Again
>the article addresses those issues.
>
>I am amazed at how cheap a brand new oven magnetron is. I have seen
>them for sale at MCM electronics for under $100. It's a pity they are
>so hard to use for typical weak signal work.
>
>Ray Mack
>WD5IFS
>mack@mails.imed.com
>Friendswood (Houston), TX
>

--I like the comments but my name is BRIAN
my understanding is that the 2450 mhz freq is the dipole moment of
average water and it is the water that creates the cooking until
carbonization sets in when it is too late and another food prep
may be called for
beyond the shear pleasure of high power operation why do it?
Brian Olliver

3795. ** FLEA at MIT ** Sunday 16 June Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: w1gsl@athena.mit.edu
Message-ID: <4pmff6$82u@senator-bedfellow.MIT.EDU>
Source record: 104719
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,rec.radio.amateur.homebrew

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MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

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****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

3796. Novice QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: mildfedc@quicklink.net
Message-ID: <4pl8de$968@news.quicklink.net>
Source record: 104720

I wonder why there is a lack of QRP rigs available for novice freqs.
All homebrew/kit qrp rigs are set up with crystals in the general
class freqs.
Wouldn't it make sense to offer then on 10M or in the novice portion
of 40M to get new hams to learn code? or am I just wishing.
I am a technician class ham with my 5wpm code endorcement, and am
tired of all the stuff on 2M, of packet, of SSB, of all the other
"hot" stuff. Sold all my HF gear...sold all my packet gear....sold
all my 2M gear...and bought me a qrp rig with novice crystal in it for
40M. Gonna start at the bottom...learn my code like I should have
years ago...and enjoy pounding brass for a change.
Seems like the faster we run....the quicker we get back to where we
were. Go figure.
Let me know what you think.
73....de Dennie (KC4QNW)
Aho Mitakuye Oyasin (All My Relations)

3797. Ranger RCI7000 Marine Radio Mods?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: mervins@aol.com
Message-ID: <4plg3e$82q@newsbf02.news.aol.com>
Source record: 104721

Looking for any modifications for a Ranger RCI7000 Marine Transceiver or other marine tranceivers.

3798. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: Rick Miller <rick@DigalogSys.com>
Message-ID: <Pine.LNX.3.91.960612064616.12392C-100000@net.digalogsys.com>
Source record: 104722

On Mon, 10 Jun 1996, WB3U wrote:

> This thread has reminded me of something I haven't thought
> about in a long time.
>
> About twenty years ago, I was discussing self-sufficiency
> with a friend who was familiar with a number of different
> non-electrical technologies. He had concluded that if one
> could obtain all the necessary parts, the best way to generate
> and store power on a small scale would be compressed air.
[...]

This does relate to amateur radio, I promise!

Recently, some power companies have been using the very technique you're talking about to stretch their capacity. During the daytime (especially summertime in warmer climates) they just don't have enough generating capacity to handle the load. Their local "Public Service Commission" doesn't want any more polluting power plants, so they can't build coal or gas-fired generation facilities. Their load at *night* though is much, much lower.

So, at night they pump air into empty salt mines while they have the power available. Then during the day they blow it through high-efficiency turbines to drive the generators. Zero pollution produced at the new generation facility (though we all know it had to happen back at the ol' coal plant anyway).

On a smaller scale, it's almost always more economical to use some other energy storage technique that's closer to the application at hand (like making ice at night to get cool air at noon). In that same way, it may be more economical for the ham to use 12-V storage batteries and make sure their equipment can run off of it *directly*, rather than through an inefficient converter.

Any time you convert energy, you lose some. Usually, you lose a *lot*.

Rick Miller
Was KA9JHH, new ticket coming in July.

3799. Rochelle salt crystal growing

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4pn1ce$mb1@peabody.colorado.edu>
Source record: 104723

From lempicki@psych.umass.edu Wed Jun 12 11:52:46 MDT 1996

>Is anyone familiar with crystal growing? I am interested in crystals for
>headsets for use wth crystal radios. I would appreciate any info or
>references. TIA! -Gerry

An excellent book is "Crystals and Crystal Growing" by Alan Holden and Phyllis Singer (she might have a new last name by now; my book was pretty old) which gives thorough descriptions of, well, crystals and crystal growing. Besides setting up general principles (excellently), the book also provides specific how-to recipes for a dozen water-soluble salts, and Rochelle salt is one them.

I've grown that one myself. It grows fast and well if conditions are right, but the stuff has such a high temperature dependence of solubility that "right conditions" mean mostly a pretty damn stable temperature; the book goes into this. During a lucky spell in weather - I didn't have a temp. comtroller - I got a crystal just smaller than a roll of 35mm film in four or five days of growth.

Once.

Bruce
N6URH

3800. transformer impedance measurement

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: workshop@pcm.co.za
Message-ID: <4pmsb8$3q0_001@pcm.co.za>
Source record: 104724

Is there any way that I can measure the input and output
impedance of transistors at high frequencies (eg 100Mhz)
with relatively simple equipment.I know that most rf transistors
data sheets come with these parameters (S & Y params)
but how can you find these parameters for transistors that don't
have these in there data sheets.
I know that this is probably a bit of a long shot,but is there anyone
out there who can help me.
Cheers
Robin
PS:the equipment that I have available to use:multimeter,20mhz scope,200mhz freq
counter,110mhz sweep/signal generator.

3801. Re: Cell Phones as 23cm HAM Radios??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: tumino@acsu.buffalo.edu
Message-ID: <4plkf4$1e5@azure.acsu.buffalo.edu>
Source record: 104725

I haVE found that cell phones can transmit outside of the cell bandplan,
however I have not been able to program a cell phone for use in the 900
ham band. Please keep me posted on your quest.

I believe hardware modification will be necessary, but I am willing to bet
it isnt too hard and it could yield great resul;ts.
Tom

N2YTF

Gabe Nemeth
(gabe@bnr.ca) wrote:
: Thanks for reading this. If I have posted to the wroing group please
: let me know.

: With the advent of the new cell phone technologies such as Satellite,
: the 'older 900 Mhz cell phones' are more-and-more available on the used
: marked (I purchased my Motorola at Dayton for $US 25). I know these cell
: phones are programable, but just how programmable may be the question.
: These units have a display, battery level indicator, some have 5 Watt
: output, keypad entry, to list a few. Motorola has a very high quality
: product, surely these phones (or others) can be reprogrammed for FM HAM
: use.

: Can these cell phones be reprogrammed for the HAM 900Mhz use? If so are
: the resources available to do this? If the bandwidth can be changed
: imagine the packet applications? Or, is this just a loonie idea?
: Cheers,
: '73 de VE3SLJ.

3802. Re: Help me build .001 microhenry strip line inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: Jon Jenkins <academic@onthenet.com.au>
Message-ID: <4pnch9$73g@corolla.onthenet.com.au>
Source record: 104726

You can use either strip or wire

Tell me some more info like

frequency
board charactersitics like Er, thickness etc
Q required

For wire in free space ~ 0.5-1nH/mm is a good guide

Jon

Name: Academic Technologies Bongaree Rd,
Voice/Fax: 61-7-55-905-008/013 Terranora,
Inet: academic@onthenet.com.au NSW, AUSTRALIA 2486
Web: http://www.onthenet.com.au/~academic
My 3 year old son: "Daddy, why did God put the dinosaurs here first ?"
My 6 year old daughter: "To make it interesting for us!"...think about it
!!

3803. Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: Mark Schoonover - KA6WKE <schoon@cts.com>
Message-ID: <4pmmpt$9g@usenet1.sjc.in.sel.sony.com>
Source record: 104727

Thanks for reading!

I'm looking for a CB that would be relatively easy to convert to
10m FM. I have the usual equipment, etc. This would be my first
attempt and I don't know much about the different CB gear available.

73's

Mark

--
~~~~~~
Mark Schoonover -- KA6WKE E-Mail: schoon@cts.com
San Diego, CA
Kenwood R-1000, BC2500XLT, PK232MBX/JVFAX, 66' Indoor Dipole
~~~~~~

3804. Re: HOW to Calculate COIL TAP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-12 00:00:00 UTC
From: Jon Jenkins <academic@onthenet.com.au>
Message-ID: <4pnc0a$6nb@corolla.onthenet.com.au>
Source record: 104728

Hi

Email what you want to do and I will work it out for
you.

Jon

Name: Academic Technologies Bongaree Rd,
Voice/Fax: 61-7-55-905-008/013 Terranora,
Inet: academic@onthenet.com.au NSW, AUSTRALIA 2486
Web: http://www.onthenet.com.au/~academic
My 3 year old son: "Daddy, why did God put the dinosaurs here first ?"
My 6 year old daughter: "To make it interesting for us!"...think about it
!!

3805. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: bosch@mcs.com
Message-ID: <4po01b$2at@Nntp1.mcs.net>
Source record: 104633

In <4pmmpt$9g@usenet1.sjc.in.sel.sony.com>, Mark Schoonover - KA6WKE <schoon@cts.com> writes:
>Thanks for reading!
>
>I'm looking for a CB that would be relatively easy to convert to
>10m FM. I have the usual equipment, etc. This would be my first
>attempt and I don't know much about the different CB gear available.
>

I've always had the impression that modifying a CB for 10m use was illegal.

Andrew (KA9VYG)

3806. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: "Bruce C. Raisley A.R.S. N9ZLE" <n9zle@concentric.net>
Message-ID: <31BFA75F.60E6@concentric.net>
Source record: 104634

Mark Schoonover - KA6WKE wrote:
>
> Thanks for reading!
>
> I'm looking for a CB that would be relatively easy to convert to
> 10m FM. I have the usual equipment, etc. This would be my first
> attempt and I don't know much about the different CB gear available.
>
> 73's
>
> Mark
>
> --
> ~~~~~~
> Mark Schoonover -- KA6WKE E-Mail: schoon@cts.com
> San Diego, CA
> Kenwood R-1000, BC2500XLT, PK232MBX/JVFAX, 66' Indoor Dipole
> ~~~~~~

Purchase an Ranger 2950, or a Uniden 2510 they are (Junky)CBs that have
allready been converted to 10 meters they can be converted back very
easy.

3807. Re: Info WANTED! Kenwood TS440s to PC RS232

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: PAUL MULLINER <PAUL@mulliner.demon.co.uk>
Message-ID: <822611779wnr@mulliner.demon.co.uk>
Source record: 104635

Hi I,ve almost cracked this pc link to the Kenwood TS440sat
I dont have the IC-10 manual from kenwood that supports the two chip
upgrade! I fitted the chips myself. I need to know the correct BAUD
BIT, STOPBIT and PARITY for the RS232 PLease.....
Many thanks got to all those supplying info on the interface
Regards PAUL.....73's
--
****
* Paul Mulliner *
* Barnsley, Yorkshire, UK *
* paul@mulliner.demon.co.uk *
****

3808. Re: NEOSID coils

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: jeroen@sp068.cern.ch
Message-ID: <Dsxs8s.M49@news.cern.ch>
Source record: 104636

In article <31BC302D.33F4@ee.port.ac.uk>,
Erik Finskas OH2LAK <finskase@ee.port.ac.uk> wrote:
>Do you know where else than Eisch electronics in Germany are NEOSID
>coils available??
>
>Or is there anywhere a table of Neosid coils, their inductances etc.

There used to be representative in the UK, but I'm not sure they still
exist:
Neosid Ltd.
Icknield Way West
Letchworth
GB-Hertfordshire
SG6 4AS England
Tel. 0044-462-481000
Fax 0044-462-481008

If you can't get in touch, ask again. There are plenty of addresses
in my copy of the data booklet.

Good luck,
Jeroen Belleman
Jeroen.Belleman@cern.ch

3809. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4pp2kj$moq@mksrv1.dseg.ti.com>
Source record: 104637

(snip)
>I'm looking for a CB that would be relatively easy to convert to
>10m FM. I have the usual equipment, etc. This would be my first
>attempt and I don't know much about the different CB gear available.
(snip)

Mark,
First thing I'd suggest is locate a library or another ham who has a complete collection of 73, QST, Ham Radio, and CQ magazines from about 1977 through 1983 (plus or minus). Look through the December issues of each magazine and find the Annual Index of Articles. Search these indices for 10m FM conversion articles. You will find every bit of info you need there. I used to have a three-ring binder full of 10m FM conversion articles, but I can't find it (I may have loaned it to someone and never gotten it back -- bummer!). All of the info I had came from the sources I've suggested above. In the early 1980s when the 10m FM boom really took off, I converted literally dozens of the "Cybernet" PLL-02A chassis to 10m FM (again, look in the magazine articles for particulars on which ones are convertible and which ones are not).

Good luck and 73 de KC5NG

3810. Re: Help me build .001 microhenry strip line inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: myers@West.Sun.COM
Message-ID: <4ppcem$i1@abyss.West.Sun.COM>
Source record: 104638

In article <Pine.SUN.3.91.960611092745.13502A-100000@access.mbnet.mb.ca>,
VE4KLM <slmusr03@MBnet.MB.CA> wrote:
>
>I am building a 6th order butterworth bandpass filter for the 2 meter
>band (hoping to kill the intermod problem at my location), but some
>of the inductors are just too small to wind using conventional air
>coil designs. I have seen the use of strips of metal to do this, but
>I do not know the calculations involved. The ARRL book I have shows
>lots of projects using pieces of wire or strips of metal, but they do
>not tell you how to calculate the inductance.
>
>Can anyone give me dimensions for a .001 microhenry strip, and also maybe
>some strip line formulas, so that I can create my own inductors.

1nH is a very small inductance - the same as about 1mm of component
lead. You may have trouble realizing this value practically. I'd
look at re-synthesizing the filter to get more practical values.

Dana
--
* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are mine and should *
* (310) 348-6043 | not be interpreted or represented as *
* Dana.Myers@West.Sun.Com | those of Sun Microsystems, Inc. *

3811. Looking for "Fast-On" Tabs . . . .

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: engineer@train.com
Message-ID: <4pp1gj$4qn@news72.supernews.com>
Source record: 104639

Got a project using double row, .250 inch wide, male "Fast-On" tabs. Used to get them from a local surplus house but their supply has dried up. Approached manufacturers who are all happy to tool up for 10,000 pieces but not interested in selling me only a 10 year supply!!!!

I've mailed an inquiry to all the big names in electronics surplus . . . Hosfelt, MP Jones, etc. I gotta believe that what I'm looking for is probably in stock in great abundance . . . somewhere. Is anyone aware of local storefront surplus stores that I could write to?

I can use either continuous reels or segments of 6 or more pairs of tabs. They need to have a single, clean hole between the tabs . . i.e. these get sweat-soldered to a brass sheet. Can't use the type that are "self riveting" to an etched circuit board for this project although I would be interested in that type for another project.

A name/address/zip of your favorite "junque" store would be appreciated!

Bob . . .

K0DYH since 1956 . . been at it for 40 years this year!

3812. 10 meter FM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: jvaldes <jvaldes@whoi.edu>
Message-ID: <31C049CF.48C1@whoi.edu>
Source record: 104640

Mark... the cb to 10 meter conversions were real popular in the early 80s
, several of the ham magazines particularly 73 ran a number of articles
on these. With regards to current equipment, I don't have any
suggestions. I have one 40 channel CB that's already converted to 10 FM
along with a 50 watt amplifier. I was going to put in our club's auction
in September, give me a call if your interested.
Jim, WA1GPO

3813. Re: Help me build .001 microhenry strip line inductor

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4ppj4u$amk@nadine.teleport.com>
Source record: 104641

It sounds like you may have taken a normalized design or one for another frequency and scaled it to 2 meters. Sometimes this procedure results in extreme component values -- a 1 nH inductor probably qualifies as being in this category, depending on the construction techniques you have available. You might get lucky and make something that works, but I'd doubt that it would be repeatable if that's your goal.

Any good book on filter synthesis will have a large section devoted to transformations which shows you how to make the same, or very nearly the same, filter response with different components. This is used to find a topology which has component values you can actually realize.

Roy Lewallen, W7EL

3814. Re: Ham-Homebrew Digest V96 #260

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: s51fu@s55tcp.ampr.ORG
Message-ID: <47632@s55tcp.ampr.org>
Source record: 104642

uuuffffff ..... who invented English language ?
---
h e l p . . .
what is the difference betwen:

- powdered iron cores
- ferite cores
---
hough!
bye, DD. +

3815. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: Dave Hockaday <wb4iuy@nando.net>
Message-ID: <31C09D39.2BFC@nando.net>
Source record: 104643

> >I'm looking for a CB that would be relatively easy to convert to
> >10m FM. I have the usual equipment, etc. This would be my first
> >attempt and I don't know much about the different CB gear available.
> (snip)
> Mark,
Hi Mark. I've found the 23 or 40 channel Hygain boards to be easy to convert. The ones that use a PLL02A pll IC and 3 xtals (10.240 and 10.595 mhz and a 3rd I can't remember at this moment). They have a greenish PC board and were made for Hygain, Midland, Kraco (K-Mart), etc. They're pretty easy to spot around hamfests, flea markets, yard sales, etc. The newer CB rigs are next to impossible to move into 10 meters.

I build my own FM discriminator for FM detection, and modulate the VCO directly for true FM transmit. A model with a noise blanker is a plus. The TX move requires a couple of the coils in the PA circuit to have a turn or so removed.

If you drop a SASE to my callbook adress I'll be happy to send you a copy of the info I have.

73,
Dave Hockaday Wb4iuy
wb4iuy@nando.net

http://www.webbuild.com/~wb4iuy/
http://www.webbuild.com/~wb4iuy/teara.html
http://www.RTPnet.org/~fcarc/
http://www.RTPnet.org/~rdrc/
http://www.geocities.com/TheTropics/3349/
http://www.geocities.com/TheTropics/3341/
http://www.geocities.com/TheTropics/3489/
http://www.geocities.com/TheTropics/3212/

3816. Re: Ham-Homebrew Digest V96 #260

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: s51fu@s55tcp.ampr.ORG
Message-ID: <47635@s55tcp.ampr.org>
Source record: 104644

how to find "tempath.exe" on the internet?

I have limited e-mail access only ....
can you use some big machine to find tempath.exe? (i'ts UK made!)
bye, DD. +

3817. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: bpaul@qualcomm.com
Message-ID: <bpaul-1306961421280001@wpaul-toy.qualcomm.com>
Source record: 104645

In article <31BFA75F.60E6@concentric.net>, "Bruce C. Raisley A.R.S. N9ZLE"
<n9zle@concentric.net> wrote:

> Mark Schoonover - KA6WKE wrote:
> >
> > Thanks for reading!
> >
> > I'm looking for a CB that would be relatively easy to convert to
> > 10m FM. I have the usual equipment, etc. This would be my first
> > attempt and I don't know much about the different CB gear available.
> >
> > 73's
> >
> > Mark
-snip-~~~~~~
>
> Purchase an Ranger 2950, or a Uniden 2510 they are (Junky)CBs that have
> allready been converted to 10 meters they can be converted back very
> easy.

That's not correct. It's the other way around. The Uniden 2510, and I
think the Ranger, are 10m amatuer radios that are easily converted to CB
bands. The 2510 is a (Non Junky)all mode transceiver for 28.1 to 29.7MHz.
One cut and jumper expands it down to 26.0Mhz.

You can use modified commercial or CB radios in the amateur bands if you
have an amateur license, but you can't modify any radio to operate in a
commercial or CB bands. Radios for non-ham bands generally need to be FCC
type-accepted, which a radio you modified would no longer be. Amateur
radios don't need to be type-accepted, so you can make/modify your own
radio for use in the ham bands.

As far as Mark's question, I have an old Uniden Cobra 148 that I've been
wanting to convert to 10M. They're readily available and the schematics
are easy to find also. I'll have to select a few new components in the RF
section because it's not going to work too well 2MHz out of band, but I
think it's reasonable to do it with this radio. It only outputs 5 watts
(all the cheaper CBs will put out around 3 watts), so it will be my QRP
radio in a couple of years when 10m opens up.

-BP

Bill Paul KF6BBL San Diego,CA bpaul@qualcomm.com
Disclaimer:
The above post is the opinion of Bill Paul, not Qualcomm Inc.

3818. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: toyboat@freenet.edmonton.ab.ca
Message-ID: <4ppn08$nke@news.sas.ab.ca>
Source record: 104646

Jim Horner (jim.horner@minfox.com) wrote:
: JA>About twenty years ago, I was discussing self-sufficiency
: JA>with a friend who was familiar with a number of different
: JA>non-electrical technologies. He had concluded that if one
: JA>could obtain all the necessary parts, the best way to generate
: JA>and store power on a small scale would be compressed air.

: JA>The general concept would be to use a windmill or turbine, but
: JA>instead of generating electricity, the unit would turn an air
: JA>compressor that would pressurize an underground tank. Because
: JA>electricity isn't involved in the generation and storage of
: JA>the power, the primary maintenance cost, i.e. storage
: JA>batteries, would be eliminated.

: JA>The primary drawback to such a system is, of course, how to use
: JA>the compressed air to power electrical equipment. To produce
: JA>electricity, a fairly large "air motor" would be required in
: JA>order to drive a generator of decent size.

: JA>Does anyone know if there have been any developments in this
: JA>field, and whether off-the-shelf components are available
: JA>for such a system?

: JA>73,
: JA>Jack WB3U

: Getting a little off from home-built radio, but your post reminded me
: of a similar idea I had. I have a sloping property with my well at the
: lowest end. I was thinking of using wind-power to pump water into a
: cistern at the uphill end, and running a generator off a water-wheel by
: returning the water to the well, (abt 50 feet difference in elevation in
: this case).

: And, while we're off the topic, here's a funny windmill idea... Engine
: block mounted upside down on a tower. windmill sails welded to the
: flywheel. an extention welded to a con-rod for operating a pump -
: alternator left in place for charging batteries. I got this last from an
: old-timer who claimed to have built such a thing.

: ...jim
: ---
: • OLX 2.1 TD • Once the bugs are ironed out, we'll have lotsa flat bugs

--I once wondered whether a small car could be powered by compressed air
released through a regulator, from 16000 psig cylinders, into a piston
air motor, running at say...150psig. Medical air cylinders are filled
to this pressure, I believe. Lots of potential energy stored. I always

wondered what the range would be.

shane

3819. Re: ! June 96 CD-ROM Available !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: rcoons@espresso
Message-ID: <RCOONS.96Jun13144605@espresso>
Source record: 104647
Cross-posted to: rec.radio.amateur.policy,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna

John KA3DBN wrote:

>>amsoft@epix.net wrote:
>>
>>
>>>AmSoft announces the June 1996 release of its CD-ROM "The World of
>>>Ham Radio". and blah-blah snipped..
>>====
>> I wondered how long it would be before the Internet hawkers found
>>this group.... DXers would surely want the "Flying Horse" Calbbook
>>disk, not this one, which is a rather paltry choice from among the
>>several on the market. The far better QRZ disk is available at $12.95
>>at many
>>outlets.
>>73, John KA3DBN

What about the web site:

http://www.ualr.edu/doc/hamualr/hamualr.html

?
Included in this site is a callsign lookup. The callsign lookup data
base has up to the minute data from the FCC about (I know, only US) call
signs. We have been using this to figure out exactly when we can use
our upgraded/renewed licenses, and it has a pretty good search engine
to find names as well as call signs (and zip codes, etc.).

73s es bcnu

de KF6WL

Richard Coons 3243*N 11710*W

Inter-National Research Institute
San Diego, CA

// For a successful technology, reality must take precedence over
// public relations, for nature cannot be fooled.
// - Dr. R. P. Feynman

3820. Re: Looking for "Fast-On" Tabs . . . .

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: 72770.552@compuserve.com
Message-ID: <4pq5i6$rgb@opal.southwind.net>
Source record: 104648

engineer@train.com (Casy Jones) wrote:

>Got a project using double row, .250 inch wide, male
>"Fast-On" tabs. Used to get them from a local
>surplus house but their supply has dried up. Approached
>manufacturers who are all happy to tool up for 10,000
>pieces but not interested in selling me only a 10 year
>supply!!!!

>I've mailed an inquiry to all the big names in electronics
>surplus . . . Hosfelt, MP Jones, etc. I gotta believe
>that what I'm looking for is probably in stock in great
>abundance . . . somewhere. Is anyone aware of local
>storefront surplus stores that I could write to?

>I can use either continuous reels or segments of 6 or
>more pairs of tabs. They need to have a single, clean
>hole between the tabs . . i.e. these get sweat-soldered
>to a brass sheet. Can't use the type that are "self
>riveting" to an etched circuit board for this project
>although I would be interested in that type for another
>project.

>A name/address/zip of your favorite "junque" store would
>be appreciated!

> Bob . . .

> K0DYH since 1956 . . been at it for 40 years this year!

Hmmmm . . . launched this original from home in a version
of FreeAgent I've never used before . . . looks like I need
to fix the return address! Anywho, ignore Mr. Jones and
contact Mr. Nuckolls if you can help! Thanks!

Bob . . .

3821. Half duplex robot communication

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-13 00:00:00 UTC
From: random@sal.seanet.com
Message-ID: <random.45.0013B592@sal.seanet.com>
Source record: 104649

I' looking for a quick and dirty, 6 or 2 meter, half duplex, AM (or FM) modem circuit that will support a 50kbaud signal. The link will be between a host computer and a mobile robotic platform no more that 50 feet away.

I was thinking of 100% modulating an off-the-shelf oscillator can for a transmitter, and using a matching crystal as the input discriminator (following a relatively broad input filter/amp). 50 mW should be enough power, although I believe up to 1 watt is allowed for 'radio control'.

If you've got a similar circuit laying around, know where one is, have comments on pitfalls, or would like to do some tinkering and live in the greater Seattle area, please respond. By the way, this all needs to be done in about three weeks.

Bill Standing (AC7G)
Kirkland, WA

3822. Homebrew receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: CORDESSES Roland <cordesse@opgc.univ-bpclermont.fr>
Message-ID: <31C16123.25DF@opgc.univ-bpclermont.fr>
Source record: 104650

Hi there

I have received some inquiries about my home made receiver shortly
described in a recent message. Some of you asked me about my homebrew
crystal filters so now I give a few informations on the subject :
First I don't claim for any original ideas: I merely used techniques
and methods already published.
1. The I.F frequency . I use 8MHz : I choosed this value after many
tests on several batches of currently available crytals of different
frequencies (price in the order of $1.5 each). I found that Philips
made 8MHz crytals were good as far high Q and low dispersion were
considered. Furthermore this frequency was in the range I was looking
for. So the I.F frequency was determined !!
2. Filter computation and construction.First I measured the equivalent
circuit values for each crystal using the methods described by Hayward
(1,2). Then I computed the capacitor values (parallel coupling and series
tuning caps) with the Hayward programs included in the book "Introduction
to Radio Frequency Design"(3). During this phase I picked ideas and hints
from the 1995 Makhinson paper dealing with crystal filters (4).
Then I build the filter using carefully measured capacitors and the
result was very near the computed value .
Some characteristics of my filters are :

2300Hz 12 poles Chebyshev model (main filter):
Band pass (-3dB) : 2350 Hz
Shape Factor (6/80dB) : 1.6
Zin=Zout : 300 ohms
Insertion Loss : 3dB

2700Hz 4 poles Chebyshev model(noise filter):
Band pass (-3dB) : 2700Hz
Shape Factor (6/40dB) : 2.6
Zin=Zout : 320 ohms
Insertion Loss : 2dB

400 Hz 6 poles Butterworth model :
Band pass (-3dB) : 390Hz
Shape Factor (6/60dB) : 4.5
Zin=Zout :450 ohms
Insertion loss : 12 dB

A word of caution : don't try to build a filter in a very small box be-
cause parasitics increase and performances are difficult to obtain.

It takes time and you have to work thoroughly to build crystal filters
but the result is worth the effort : these filters are better than any

commercial units I have purchased in the past.
I would like to thank W.Hayward for the nice tools he designed and the numerous papers he wrote and J.Makhinson for sharing ideas in the art of homebrew receivers anf filters.

Good work and 73's
Roland F2DC

Notes :
1.W.Hayward, "A Unified Approach to the Design of Crystal Ladder Filters," QST, May 1992, pp 21-27.
2.W.Hayward, "Refinements in Crystal Ladder Filter Design," QEX, June 1995, pp 16-21.
3.W.Hayward, "Introduction to Radio Frequency Design, ARRL, Newington, Connecticut, 1994, chap 2 and 3.
4.J.Makhinson, "Designing an Building High-Performances Crystal Ladder Filters," QEX, January 1995, pp 3-17.

3823. Re: Want to use optocoupler as RF tranformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: wk@frc.niwa.cri.nz
Message-ID: <4prfie$cse@clam.niwa.cri.nz>
Source record: 104651

vesta@stout.entertain.com (Vesta Technology) wrote:

>I think the big advantages of using an optocoupler rather than a transformer
>for interstage coupling would be as follows:

>2) It might increase the stability of a VFO circuit if used as coupling
> between the VFO and mixer.

I saw this idea mentioned several years ago. In my view, optically coupling the output of a VFO would be worth considering in the case of a direct conversion transceiver.

A 30 m DC TRX I built some years ago suffered from 'pulling' of the VFO by the transmitter final, this in spite of elaborate shielding and decoupling. I suspect the reason being the fact that the entire TX train operated on the same frequency, making the VFO very sensitive to feedback.

Has anyone actually tried this? I would probably try an opto-isolator with a photo diode as the receiving element. The photo transistor variety has better gain, but is slower.

Wilbert, ZL2BSJ.

3824. Help need chip data

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: dl278@cleveland.Freenet.Edu
Message-ID: <4prhso$3f@madeline.INS.CWRU.Edu>
Source record: 104652

Subject: Help need chip data
help!

Need someone with an IC data book to tell me if
the 4511 decoder/latch/display driver chip is for
common anode or common cathode leds?

thanks

Bill
N5LMX/DA1WG
bgraham@tecnet1.jcte.jcs.mil
--
Never Thirst !
"My head hurts, my feet stink and I don't love Jesus!"- J. Buffett

3825. Quiet relay switching

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: psoper@encore.com
Message-ID: <DszvA2.Mr7@encore.com>
Source record: 104653

Hi folks,
Could someone show me how to properly design a simple circuit
to put across relay coils to make their switching as electrically
"quiet" as possible and minimize the stress on the circuits
driving the coil? I know the voltage and current of the coils
and will be putting an LED and its dropping resistor across
each, but think a properly selected small cap (or other components?)
would help with the back EMF when the relay is switched.

This is for a "Cecil Moore" balanced line tuner which I've
started constructing. I'd call it a "KG7BK tuner" but I know
Cecil is looking to switch callsigns :-)

Once gain my Usenet provider is fouled up so direct
email would be appreciated and I promise to post any worthwhile
info back.

Regards,
Pete
KS4XG

3826. Where to buy NE602?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: keen@austin.ibm.com
Message-ID: <4prv15$ev0@ausnews.austin.ibm.com>
Source record: 104654

I'm trying to locate a source for several NE602 local oscillator/mixer chips.
All my normal suppliers (Digi-Key, Mouser, etc) seem not to carry it.

R.G.

3827. Looking for RCI 2950 mods

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: jseibert@aixterm4.urz.uni-heidelberg.de
Message-ID: <4prv3d$lp1@sun0.urz.uni-heidelberg.de>
Source record: 104655

Dear reader!

I am looking for Ranger 2950 modifications. Especially for a faster PLL
(if possible).

vy 73 & 72 de Joachim (Joe) DL1GSJ

--
Joachim Seibert, DL1GSJ, G-QRP 8367, jseibert@ix.urz.uni-heidelberg.de

3828. Re: Laser Link Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jun14.140315.12086@ke4zv.atl.ga.us>
Source record: 104656

In article <4p57ap$22u@news.tcd.net> kj7az@coffey.com (Tim Taylor) writes:
>Has anyone tried building a laser link between two repeater sites and
>what where the results. We are concidering setting up a link between
>a 10 meter transmitter and a 10 meter reciever at about 7 miles apart
>as the crow flies. The 10 meter reciever will be connected into the
>local 2 meter repeater and the laser will be used to communicate to
>the remoter 10 meter transmitter.

I haven't tried to link repeaters via a laser, Tim, but I have experimented with lasers as communications links. The most obvious problem is fog, rain, haze, or smoke in the path. On foggy evenings, your effective range can shrink to a few hundred feet. Rain has a lesser effect, but still cuts range dramatically. Haze and smoke are normally just nuisances, but I could imagine conditions where they would stop you short of 7 miles too because of beam dispersion or absorption.

It isn't practical to use FM modulation with a laser. Most experimenters use simple AM, but at least for gas lasers, you can't achieve more than about 20% depth of modulation without quenching the laser. This low depth of modulation leads to SNR problems. You can use a Kerr cell, but that's expensive.

So you should consider pulse modulation using digital audio, or polarization sense modulation if you want to use analog audio. You can't pulse a gas laser fast enough, so you're back to a Kerr cell to pulse modulate the beam, though if beam power is low enough you could use a transmission mode LCD shutter instead. You can pulse modulate semiconductor diode lasers. These generally don't offer as much power, and the beam collimation is generally much worse, but you might do 7 miles with good optics and perhaps a bit of FEC.

Polarization modulation can be an option. You can get electrically driven polarizers for a reasonable amount of money, and you can receive using two oppositely polarized filters in front of photodiodes connected in a bridge circuit. This can sometimes yield SNRs almost as good as FM, though there's no FM enhancement effect.

Note: 50 mile terrestrial paths can be achieved under certain conditions using any of the methods mentioned above, but if you need a reliable link, don't count on such long range links being functional 7x24. If you live in dry high desert, and you can keep the beam path out of mirage, it might work, but otherwise I think you'll be better served by a RF link.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3829. Electronics Encyclopedia???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: tkomljan@mobility.COM
Message-ID: <1996Jun14.111400.1540.87225@mailgate02.mobility.com>
Source record: 104657

After some WWW surfing and no luck, can someone help?.....

Is there available an electronic's encyclopedia (reference CD) that is a compilation of various data books, parts schematics, symbols, pinouts, etc available in CD format?

Essentially, a CD that can be used as a hobbyist's point of reference?

Thank you in advance!

Tony Komljanec,
VA3TK
tkomljan@mobility.com

3830. Re: Want to use optocoupler as RF tranformer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: gcouger@tacoma.ceatlabs.okstate.edu
Message-ID: <4prqf9$7bf@news.cis.okstate.edu>
Source record: 104658

In article <4prfie$cse@clam.niwa.cri.nz>,
Wilbert Knol <wk@frc.niwa.cri.nz> wrote:
>vesta@stout.entertain.com (Vesta Technology) wrote:
>
>>I think the big advantages of using an optocoupler rather than a transformer
>>for interstage coupling would be as follows:
>
>Has anyone actually tried this? I would probably try an opto-isolator
>with a photo diode as the receiving element. The photo transistor
>variety has better gain, but is slower.
>
I have done it with an insterment. I took the out put of the mixer and ran it
Through a Motrola fiber optic kit to act as a low pass filter. It used a NE602.
We never checked audio quality but the waveform looked OK. The fiber had a
cutoff of 1 MHZ.

It rendered a very twitchy device pertty stable.

Gordon AB5DG
Gordon Couger Senior Software Specialist
Biosystems & Agricultural Engineering Dept. Oklahoma State Univ.
114 Ag Hall Stillwater, OK 74075
gcouger@master.ceat.okstate.edu

3831. Re: A radio link between computers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jun14.140703.12175@ke4zv.atl.ga.us>
Source record: 104659

In article <4p7imi$amf@sjx-ixn6.ix.netcom.com> gsparks@ix.netcom.com(Glenn Sparks) writes:
>If you want to do it right, buy 902 Mhz Spread Spectrum Lan cards, runs
>about 2.5 Mb/sec and has a range of a couple of miles, and requires no
>license. A bit costly though.
>
>This is the type of technology I was hoping the new breed of Ham would
>bring to the hobby, but it looks like it has to be from commercial
>vendors right now.

Considering the *severe* restrictions on SS operation in the amateur
regulations, you shouldn't be surprised that amateurs haven't done
much with SS.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3832. Re: Microwave ovens - anyone know the HT ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jun14.142021.12279@ke4zv.atl.ga.us>
Source record: 104660

In article <4p9g2j$325@simba.lejonet.se> Lennart Nilsson <ln@hagagymnasiet.norrkoping.se> writes:
>Obviously the peak current through the capacitor made the core
>saturate, perhaps intentionally as a built-in magnetron flashover
>protection.
>I noticed that the laminated core had been welded in a couple of
>strings. Normally the laminations are isolated from each
>other with a coating of varnish. Could that be the explanation?
>73 de Lennart, SM5DFF

Bingo! You've hit it on the head. Microwave oven transformers are designed to saturate to current limit the magnetron. A maggie is just a diode with resonant cavities and a permanent magnetic field. There's nothing limiting current flow through them except the power supply (and filament emission, but that's a poor way to limit peak currents). Microwave ovens use halfwave rectification and no filtering so that the maggie is really pulsed at a 60 Hz rate, with the peak current limited by transformer saturation. This is cheaper and simpler than designing a pure DC supply with integral current regulation.

Note: a maggie can be allowed to self-rectify, and thus not require an external rectifier at all, but that can lead to safety problems, IE the tube anode would go below "ground" on alternating half cycles. By using an external rectifier, the anode can be operated at "ground" potential, thus simplifying mounting problems.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3833. Re: Half duplex robot communication

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: Caleb Hess <hess@cs.indiana.edu>
Message-ID: <27234@834776854>
Source record: 104661

In article <random.45.0013B592@sal.seanet.com>,
Bill Standing <random@sal.seanet.com> wrote:
>I' looking for a quick and dirty, 6 or 2 meter, half duplex, AM (or FM)
>modem circuit that will support a 50kbaud signal. The link will be between
>a host computer and a mobile robotic platform no more that 50 feet away.
>
ComRad in Indianapolis sells a cheap (non-S.S.) wireless RS-232 link,
900 MHz, with a range of several 100's of feet. Let me know if you want
more info; I have the manual and phone # at home.

Caleb Hess KE9LC

3834. 10 Meter Yagi Design ??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: andrew.cowan@zetnet.co.uk
Message-ID: <4ps6gv$pc3@roch.zetnet.co.uk>
Source record: 104662

Hi
I am looking for a good 10m yagi design
About 5 elements or so, and wide spaced elements as a long boom should
not be a problem.
I leave the modem on all day so a fax of the design could be a possiblity.
Thanks
GM0UDL
--
Bye from Andrew
andrew.cowan@zetnet.co.uk

3835. Re: Help need chip data

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: jmf@visi.com
Message-ID: <4psfng$l3t@darla.visi.com>
Source record: 104663

dl278@cleveland.Freenet.Edu (William J. Graham) wrote:

>Need someone with an IC data book to tell me if
>the 4511 decoder/latch/display driver chip is for
>common anode or common cathode leds?

From the National CMOS Logic Databook, it appears to be
common-cathode. A common-anode display can be driven by using an NPN
transistor.

-- Joe
jmf@visi.com

3836. Re: Where to buy NE602?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: djackson@xroads.com
Message-ID: <31c1a622.5590046@news.xroads.com>
Source record: 104664

keen@austin.ibm.com () wrote:

>
>I'm trying to locate a source for several NE602 local oscillator/mixer chips.
>All my normal suppliers (Digi-Key, Mouser, etc) seem not to carry it.
>
>R.G.

Try B.G. Micro, POBox 280298, Dallas TX 75228, 1+800-276-2206, email
bgmicro@ix.netcom.com, their latest catalog/flyer has the NE602A
listed for $2.25 each.

Disclaimer: I have not connection with BGMicro other than a satisfied
customer over many years.

73 de W7KGU

3837. Denver sale: Parts & Power Supplies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: Lady Robin <ladyrobin@earthlink.net>
Message-ID: <31C1AE5A.5908@earthlink.net>
Source record: 104665

Iï¿½m an Electronics R&D Technician and have been working in the electronics field for many years in the Denver metro area and have sometimes accepted parts or equipment as payment for small jobs, or in trade. Sometimes I bought things it turned out I didnï¿½t need, or I didnï¿½t use later. Itï¿½s time to clean out the garage so we can continue to be able to park the car there ! My other half says: ï¿½Get that stuff out of here!ï¿½ I can give you some very good deals on some choice electronic parts, other equipment and power supplies, if they happen to be something you can use! In the case of the circuit breakers, you might even consider designing them into your equipment on a temporary basis because there are so many of them at a very good price that it might be in your interest to do so. Cash or money order as payment, COD. Thanks.

Here's what I have:

Nichicon 1500 uF 100V Have boxes of them!
Mepco 90,000 uF 20V boxes of them!
Sprague 36DE1106 27,000 uF 25 VDC
Mallory CGS494U010X8L High performance; long life; 490,000 uF 10 VDC Boxes of them!

Soldering Stations: Ungar UTC 200 and Model 9000 I have a few of each, used and in good working condition. Both have variable temperature controls. $70 each + shipping if needed.

MRF138 ! I have some of these brand new that I'm interested in selling. They're N-Channel Enhancement Mode RF Power FET's and run 30 Watts from 2-175 Mhz. They're in Case 211-07. They sell for $45. each in the catalogs. How about $25 each?! In anti-static bags, of course.

Circuit Breakers for electronics equipment! ; Potter & Brumfield #W58XB1A4A1 (1 Amp), A whole carton of (480!) brand new originally purchased from Newark (#56F870) and cost $10.07 each in single quantity and $7.64 each in 99 quantity! They're the type almost everyone's seen at one time or other; brown with 1/4" quick/solder connects in back & a round white reset button in front with the ï¿½1ï¿½ on it. There are 480 of these choice babies in the box, brand new! Perfect for building into some new equipment! Want them for $4.50 each?! Make me a reasonable offer that you would consider a good deal ; negotiate!

Microsoft Windows Sound System; Brand New! Includes board & software. Allows voice commands of software, playing of system sounds, better game sound etc. Sent registration in but new in box, never used. Card & software pkg are unopened! How about $70?!

AT&T Answering machine.

Genoa 7900; 24 bit Super VGA card goes up to 16 million colors, brand new in original sealed bubble pack box. How about $70 ?!

Do you have backup capability on your computer?! Do you know where your data is?! Irwin A120 Tape Backup Drive & 3 Tapes. 1/2 height. Backs up 60-120 Megs per tape. With manual

& disks. Remember this is with tapes, compared to others without tapes and backup tapes generally cost around $18 each at computer stores like CompUSA. How about $80 for everything?!

AT&T Answering machine; 3 yrs old, works.

Power supplies:

LH Research switchers model # MM-11. 115/230 VAC input, 5 volts @ 75 Amps! single output. I have probably 20-30 of these beauties! Very nice condition, almost new! For those not familiar with LH Research, they make very rugged reliable power supplies that barely get warm at full load! They sell for hundreds each new. $75 each!! Put 2 in series, turn up the voltage adjustment (you could get 10.5 volts total that way) & run 12 volt rig(s).

I also have some LH Research switchers 12 Volt, 62 Amp model MM-31; similar style to above! They sell for around $450 new! $160 each!!!

Power general switcher; 1060-1, 115vac in, 5 vdc @ 12 Amps out.

Sola 83-12-218-2; 115/230 vac in, 12 vdc @ 1.8 a out.

Xentek XE240-5; Linear. 115 VAC in, 5 volts @ 50 amps out.

Xentek XE90-15; Linear. 115 VAC in, 15 VDC @ 8.4 Amps out.

Cherokee Switcher 115/230 VAC in, 5vdc @ 75 A, +/- 12 VDC @ 6 A, -5VDC @ 6 A, 24 VDC @ 10 A outputs!

3838. NEED PLANS FOR A 430MHZ BIG WHEEL ANTENNA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <4psjdl$fip@ns1.iamerica.net>
Source record: 104666

Hello,
I am looking for plans to build a 430mhz Big Wheel Antenna. All
information will be appreciated.

Thanks es 73's
dwhowell@iamerica.net

3839. WTB: 10 MTR MOBILE W/ FM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <4psjfs$fip@ns1.iamerica.net>
Source record: 104667

Hello,
I am looking for a 10 Meter Mobile Rig that has FM. Something like
the Uniden HR-2600 or the Uniden 2510 or Rnager 2950.

Please send email

dwhowell@iamerica.net

3840. Re: Where to buy NE602?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-14 00:00:00 UTC
From: "Willis S. Whatley" <spud@fortnet.org>
Message-ID: <31C1C4F6.212@fortnet.org>
Source record: 104668

```
Available at Randy's Electronics
2236 W 1st St
Loveland, Co. 80537
970-635-9656
very good prices !!!
WA5VRL Willis
```

3841. Re: Novice QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: "Robert W. Lewis" <rlewis@staffnet.com>
Message-ID: <31C379D1.35F5@staffnet.com>
Source record: 104579

Dennie Mildfeldt wrote:
>
> I wonder why there is a lack of QRP rigs available for novice freqs.
> All homebrew/kit qrp rigs are set up with crystals in the general
> class freqs.
> Wouldn't it make sense to offer then on 10M or in the novice portion
> of 40M to get new hams to learn code? or am I just wishing.
> I am a technician class ham with my 5wpm code endorcement, and am
> tired of all the stuff on 2M, of packet, of SSB, of all the other
> "hot" stuff. Sold all my HF gear...sold all my packet gear....sold
> all my 2M gear...and bought me a qrp rig with novice crystal in it for
> 40M. Gonna start at the bottom...learn my code like I should have
> years ago...and enjoy pounding brass for a change.
> Seems like the faster we run....the quicker we get back to where we
> were. Go figure.
> Let me know what you think.
> 73....de Dennie (KC4QNW)
> Aho Mitakuye Oyasin (All My Relations)

The S&S Engineering synthesized QRP rigs cover the novice freqs. Most
of the VFO type QRP kits around can be set up to cover the novice freqs.

3842. 7 Pin Miniature Tube socket- matching plugDoes any one know of a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: juan@cinabrio.com
Message-ID: <4pv478$m3q@masters0.Internex.NET>
Source record: 104580

Does any one know of a source for a plug or header that will
plug into a standard seven pin miniature tube socket?
I need one desperately and none of the places around here
(San Jose) have them. Any help would be appreciated.
Juan
n6mxa

3843. Optoelectronics' 2600HA frequency counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: fwhitehurst@ezdial.com
Message-ID: <4pt6ni$c37@news.cais.com>
Source record: 104669
Cross-posted to:
alt.radio.scanner,rec.radio.scanner,rec.radio.shortwave,rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Anyone have any experience with the Optoelectronics' 2600HA frequency counter? How does it rate compared to say, the "cub"? Would it rate as a "sniffer"? I seem to have to be right on top of most rf sources! Are most frequency counters like this??? David N4ZGT.

3844. ATV Homebrew???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: Michelle Nicolls <mnicolls@snowcrest.net>
Message-ID: <4ptik9$clt@news.snowcrest.net>
Source record: 104670

Does anyone have any ideas for low power(<.5 watt) ATV transmitters or downconverters? Just bought a used camera and am looking for a cheap, fun way to get started. Any help welcome.

TNX, Troy. KE6QMX

3845. Homebrew Pagers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: tgunn@access.mbnet.mb.ca
Message-ID: <tgunn-1506960156060001@ts4m-1.mbnet.mb.ca>
Source record: 104671

Hello everyone, I'm interested in making a homebrew pager that I would operate on an amateur band. I'm wondering if anyone out there has ever attempted this? That or is it possible to modify a standard pager to receive it's signal in an amateur band and then to build a transmitter for my home? If anyone has any information, please email me at tgunn@mbnet.mb.ca...

3846. H A M F E S T and Computer Fest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: Samuel Geller <sgeller@mail.bcpl.lib.md.us>
Message-ID: <Pine.SOL.3.93.960615084753.3059C-100000@mail>
Source record: 104672

```
-----------------------------------------------------------------
| The Famous BRATS Maryland |
| |
| H A M F E S T and C O M P U T E R F E S T |
| |
| Sunday July 28, 1996 |
| |
| At the Maryland State Fairgrounds, Timonium, MD |
| (On York Road, just North of the Baltimore Beltway (695)) |
| |
| Air Conditioned Building LARGE Tailgating Area |
| |
| Plenty of Free Parking |
| Accessible to the Handicapped |
| For Information, or table reservations, call (410)467-4634 |
| OR brats@smart.net OR our home page: http://smart.net/~brats |
| |
| Talk-in on the BRATS Repeater System 147.030(+) and 224.960(-) |
-----------------------------------------------------------------
de W3MQF
```

3847. Re: Battery Backup Power?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jun15.135509.17177@ke4zv.atl.ga.us>
Source record: 104673

In article <4pgen4$4n4@crash.microserve.net> jackl@pinetree.microserve.com (WB3U) writes:
>This thread has reminded me of something I haven't thought
>about in a long time.
>
>About twenty years ago, I was discussing self-sufficiency
>with a friend who was familiar with a number of different
>non-electrical technologies. He had concluded that if one
>could obtain all the necessary parts, the best way to generate
>and store power on a small scale would be compressed air.
>
>The general concept would be to use a windmill or turbine, but
>instead of generating electricity, the unit would turn an air
>compressor that would pressurize an underground tank. Because
>electricity isn't involved in the generation and storage of
>the power, the primary maintenance cost, i.e. storage
>batteries, would be eliminated.
>
>The primary drawback to such a system is, of course, how to use
>the compressed air to power electrical equipment. To produce
>electricity, a fairly large "air motor" would be required in
>order to drive a generator of decent size.
>
>Does anyone know if there have been any developments in this
>field, and whether off-the-shelf components are available
>for such a system?

Some utilities use it for load leveling. There are several
gotchas for the home user, however. The main one is that
air motor efficiency depends greatly on load. You can make
an air motor that has good efficiency at any given load,
but not at varying loads. This doesn't bother the utilities
since their system has mixed generation and they can plug
the air driven source in at a fixed load factor, handling
the load variations with other schedulable generation.

But for the homepower user, it is a killer. If you size the
air motor to power all your loads, it will be horribly
inefficient when you are only using a few loads. But if you
size the air motor for only a few loads, you can't supply
a heavier load on the occasions you need to run it. Several
small air motors could operate generators in parallel, starting
and stopping depending on the immediate load, but regulation,
mechanical complexity, and cost rapidly get out of hand.

Secondarily, air storage isn't very energy dense, IE it takes
a *big* tank to store significant energy. And if you use high
pressures, that big tank can be dangerous too. Some work has
been done using long runs of buried high pressure tubing as a
storage tank. This reduces risks, and sometimes costs too, but
it still has to be a *large* installation to store significant
power.

You're better off pumping water if you want mechanical storage.
Many utilities do this. It is lots easier to get efficient
water turbines over a varying load range than it is to get efficient
air turbines over a variable load range. That's because water
is not compressible. Output is directly proportional to water
flow rate over the entire load range.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

3848. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_834861938@rtfm.mit.edu>
Source record: 104674
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

```
Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb,
rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet
mailing list counterparts and complements. It is intended to serve as a
guide for the new reader on what to find where. Questions and comments may
be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at
jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October
1994 to add the discussion of non-Usenet mailing lists and streamline most
of the history discussion, and to change the moderator information for
rec.radio.info.

History
=======

Way back when, before there was a Usenet, the Internet hosted a mailing list
for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions
were held on the mailing list, and sent to the mailboxes of those who had
signed up for it. When the Usenet software was created, and net news as we
now know it was developed, a newsgroup was created for hams: net.ham-radio.
The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became
progressively higher. First one by one, and then as part of two
reorganizations, what was once one group became many. In the process,
developments elsewhere on the net were reflected in the groups as they were
created, most notably the change to place all of the ham radio groups in one
hierarchy.

The collection of newsgroups continues to grow as more people join the net,
and as more topics of discussion gain volume, I expect to see more groups be
created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the
notable exception being rec.radio.swap. There are also a few mailing lists
that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them,
and not to the groups that aren't. The whole idea of having different
```

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

3849. Packet Help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: maynards@pacbell.net
Message-ID: <4pv3jf$nuk@news.snfc21.pacbell.net>
Source record: 104675

Anyone know how to interface a HT-600 to a PK-88. I am trying to do this thru a HT600 speaker mic.

73
KD6PHZ

3850. Would a MMIC make a good osc. @ VHF/UHF frequencies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: tmahanna@ix.netcom.com
Message-ID: <4pvbmp$9tj@sjx-ixn4.ix.netcom.com>
Source record: 104676

What do you think? I've got a few of them to try. MAR-6's. I guess I could use an MPF102, but I was just wondering. Anyone?

-Tom

3851. FS: 6LQ6/6JE6 Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: steve.lee@nashville.com
Message-ID: <0000093B000022E4@nashville.com>
Source record: 104677

Hello,

Quantity: 10

Type: 6LQ6/6JE6 Tubes

Price: $170

Please e-mail.

Thanks,
Steve

3852. 225W Mobile White Tornado's !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-15 00:00:00 UTC
From: steve.lee@nashville.com
Message-ID: <0000093B000022E5@nashville.com>
Source record: 104678

Hello,

225W Mobile White Tornado's.

Please e-mail.

Thanks,
Steve

3853. Re: HamCom Converter Schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: wmkresl@townsquare.net
Message-ID: <4pvo8o$om6@tribune.concentric.net>
Source record: 104581
Cross-posted to: rec.radio.shortwave,rec.radio.amateur.misc,rec.radio.amateur.homebrew

In article <4p5lko$5f4@news.iastate.edu>,
louwerse@iastate.edu (Mark A Louwerse) wrote:
>I just downloaded HamCom 2.0 and need some clarification on the converter
>schematic. The Bridge circuit to the right of the Op Amp is confusing. I
>don't know which nodes are connections or not. Does anyone have a better
>copy or can clarify this part of the circuit?
>
>Also, do I need the PTT input if I'm just going to hook it up to my DX-390
>to decode RTTY? What's it for anyway?
>
>

PTT means PUSH-TO-TALK, or a means of initiating the TRANSMIT functions on
voice transmitters/transceivers. You won't have such a thing on a receiver.

Wm Kresl - WB9BBC

--
Wm Kresl
WB9BBC @KD9JK.WI.USA.NOAM
GE Medical Systems
Milwaukee, WI

3854. Re: ATV Homebrew???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: woody.white@worldnet.att.net
Message-ID: <4pvvl6$2f5@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104582

Michelle Nicolls <mnicolls@snowcrest.net> wrote:

>Does anyone have any ideas for low power(<.5 watt) ATV transmitters
>or downconverters? Just bought a used camera and am looking for a
>cheap, fun way to get started. Any help welcome.

> TNX, Troy. KE6QMX

Troy , Michelle ??? Check your signiture....

Anyway.... I have 'brewed ATVs for 426 AM modulated and 900 FM. The
900 FM is actually built in the basket area of an old camcorder....
Let me know which you are interested in and I can supply more
details....

de Woody (WB4QXE) - woody.white@worldnet.att.net

Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!

3855. NEED PLANS FOR A 222MHZ NOTCH FOR A 10M RIG

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: dwhowell@iamerica.net
Message-ID: <4q04sv$fek@ns1.iamerica.net>
Source record: 104583

Hello,
I am looking for some simple plans to build a 222mhz notch filter to add to a 10 mtr mobile rig. Can someone please help with instructions? I would like to build it in a small RF tight box and be able to tie it in line with the coax and antenna. Please send email

dwhowell@iamerica.net

3856. Re: Would a MMIC make a good osc. @ VHF/UHF frequencies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <834912262snz@lfheller.demon.co.uk>
Source record: 104584

In article <4pvbmp$9tj@sjx-ixn4.ix.netcom.com>
tmahanna@ix.netcom.com(Thomas "Thomas R Mahanna" writes:

> What do you think? I've got a few of them to try. MAR-6's. I guess I
> could use an MPF102, but I was just wondering. Anyone?

A few months ago Electronics World had an article by Ian Hickman on some
experiments he performed using MMICs as oscillators. As I recall, they
worked, but not all that well.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

3857. 6 METER AM / questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: jwg6@cornell.edu
Message-ID: <jwg6-1606961046430001@cu-dialup-1208.cit.cornell.edu>
Source record: 104585

Where is 6m am activity usually found? 50.2? Calling freq.?
How about 2m am, if it's ever used anymore? What freq.'s?

Regarding antennas, would a ground plane or horizontally polarized antenna
be best for 6m band openings when using this mode? From what I
understand, antennas for weak-signal ssb/CW are horizontally polarized;
not sure what would be appropriate for am/dx. Thank you, 73
(pse reply to jwg6@cornell.edu) N1AEP

3858. WTB: HP712C power supply

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: Vlad <dvorkin@pcs.mot.com>
Message-ID: <4q19qo$qo2@trotsky.cig.mot.com>
Source record: 104586

```
WTB: Hewlett Packard HP712C power supply.
Contact Vlad at: dvorkin@pcs.mot.com
```

3859. Simple VLF radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: drranu@holly.ACNS.ColoState.EDU
Message-ID: <4q1crm$3b0q@yuma.ACNS.ColoState.EDU>
Source record: 104587

I am interested in listening to the natural EM noise in the VLF spectrum (2-11kHz). I have been unable to find a schematic or other source from which to build a VLF receiver. Does anyone know where I would find this?

Thanks.

--
-Emarit Ranu, KG0CQ 73's drranu@holly.ColoState.EDU
Electrical Engineering Colorado State University
All generalizations are bad. Censorship: ######
_·_ __· _____ _·_· __·_

3860. Re: Simple VLF radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4q1lp5$eje@shellx.best.com>
Source record: 104588

In article <4q1crm$3b0q@yuma.ACNS.ColoState.EDU>,
Emarit Ranu <drranu@holly.ACNS.ColoState.EDU> wrote:
>
> I am interested in listening to the natural EM noise in the VLF
> spectrum (2-11kHz). I have been unable to find a schematic or
> other source from which to build a VLF receiver. Does anyone
> know where I would find this?
>
> Thanks.
>
>--
> -Emarit Ranu, KG0CQ 73's drranu@holly.ColoState.EDU
> Electrical Engineering Colorado State University
> All generalizations are bad. Censorship: #######
> _·_ __· _____ _·_· __·_

I recently took an interest in this myself. You should check out the
Longwave Home Page: http://users.aol.com/lwcanews/lwcanews.html
The section "File Library" includes a link "Natural Radio Files"
Which points to a couple of different designs. The page has all
kinds of other useful info on VLF.

Steve Muther WF6R

3861. Re: Would a MMIC make a good osc. @ VHF/UHF frequencies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: cbenjam@dinfsvs.com
Message-ID: <4q1lsv$rpt@tkhut.sojourn.com>
Source record: 104589

In article <4pvbmp$9tj@sjx-ixn4.ix.netcom.com>, tmahanna@ix.netcom.com(Thomas R Mahanna) says:
>
>
>What do you think? I've got a few of them to try. MAR-6's. I guess I
>could use an MPF102, but I was just wondering. Anyone?
>
>-Tom
>
Tom, the UHF/microwave equipment that I repair on the job uses MMIC's in the receiver oscillators and they work very well. This is top-end commercial equipment.

Curt Benjamin, KF8HN

3862. Need: Cheap source of SMT Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: cbenjam@dinfsvs.com
Message-ID: <4q1m9q$rpt@tkhut.sojourn.com>
Source record: 104590

Does anyone know of a mail-order source of Cheap surface-mount components (not the regular $0.30 to $2.00 for a single ceramic SMT capacitor parts source)?

Curt Benjamin KF8HN

3863. project box

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: ALAN.ELDRIDGE@DRAGONBBS.COM
Message-ID: <4q1vkc$ff5@news.dx.net>
Source record: 104591

Floating around at gun shows now are 20mm cartridge carrying cases. They are made out of a black plastic, extremely heavy construction. I do not doubt they could be run over by a small car with nothing over than minor scratch damage.
The point of this post is, they make a godzilla radio or battery carrying case. The one I bought holds 5 7Ah gell cells. It would also hold a small QRP rig, antenna, battery and accessories with no problem.
The "lid" has a waterproof seal, and both ends are hinged, allowing access to both ends of the box.
I paid $8 for mine.

3864. homebrew tnc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: cadams5 <cadams5@utkux.utk.edu>
Message-ID: <31C492B6.55D0@utkux.utk.edu>
Source record: 104592

I would like to build a tnc(preferably 9600 baud) or a packet modem,
does anyone know of any plans or kits. Just bored and want something to
do.

KE4YNN
Brian

3865. Re: Help need chip data

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: gmfoster@epix.net
Message-ID: <4q25fa$jll@coconut.epix.net>
Source record: 104593

If you have acess to the net you should start using it to look up your
own requests.

I suggust starting at The Chip Directory
http://www.civil.mtu.edu/chipdir/chipdir.html

or Gray's Page at
http://www.scruznet.com/~gcreager/hello2.htm

Garry Foster WB0NNO

4511, 744511
BCD to 7-segment decoder/common-cathode LED driver.

```
+----------+
A1 |1 ++ 16| VCC
A2 |2 15| YF
/LT |3 14| YG
/BI |4 13| YA
/LE |5 4511 12| YB
A3 |6 11| YC
A0 |7 10| YD
GND |8 9| YE
+----------+
```

[This information is part of the GIICM]

dl278@cleveland.Freenet.Edu (William J. Graham) wrote:

>Subject: Help need chip data
>help!

>Need someone with an IC data book to tell me if
>the 4511 decoder/latch/display driver chip is for
>common anode or common cathode leds?

>thanks

>Bill
>N5LMX/DA1WG
>bgraham@tecnet1.jcte.jcs.mil
>--
>Never Thirst !
>"My head hurts, my feet stink and I don't love Jesus!"- J. Buffett

3866. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: john.vercellino@n9csa.com
Message-ID: <96061619531395@n9csa.com>
Source record: 104594

Nope, you can modify a CB for 10 meters. Several years ago, it was a requirement that any CB repairs be made only by a FCC First Class licensee. Is that what you're referring to?

John WB9OVV

3867. Re: Need: Cheap source of SMT Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4q2gp6$3uu@shellx.best.com>
Source record: 104595

In article <4q1m9q$rpt@tkhut.sojourn.com>, KF8HN <cbenjam@dinfsvs.com> wrote:
>Does anyone know of a mail-order source of Cheap surface-mount
>components (not the regular $0.30 to $2.00 for a single ceramic
>SMT capacitor parts source)?
>
>Curt Benjamin KF8HN

Surplus stores around here (Silicon Valley) are selling chip resistors
and caps for as cheap as $0.50 for 10. The price seems to be getting
more reasonable but I guess it has not spread around the country yet.

I think Digi-Key (http://www.digikey.com) sells a range of SMT components
but the best deal seems to be the designer kits of standard values. One
of these is probably worth the investment for the serious home brewer.
After that, you could just buy single value replacements for the kit.

Good Luck

Steve Muther WF6R

3868. Re: Frequency Standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: stevem@shellx.best.com
Message-ID: <4q2hg1$7qd@shellx.best.com>
Source record: 104596

In article <4q2ee3$62p@alpha.pcix.com>, <daveaa1a@pcix.com> wrote:
>Some time ago I received many correspondence speaking of Frequency accuracy anf how to get it best.
>Since then I have stripped 3.58 color burst off network, Loran 'C' from Nantucket and WWV.
>For CCW or Spread spectrum purposes, what type do you prefer/use/reccomend.
>
>I'm thinking that Network Color burst say from ABC or any network available to both parties involved
>via cable or terrestrial is the way to go.. As long as both parties are using same reference, does it
>matter if it's not 10-14th??
>
>Planning to phase lock my 10ghz brick and LowFer Beacon.. What should we use??
>
>Dave Riley AA1A
>
>
>daveaa1a@pcix.com
>

Since most TV stations now generate there own sync and color and the network feed most likely is run through a digital frame synchronizer to alighn it with the station, your standard would only be as good as the TCXO in the station's in-house generator.

If you want to use a good comon reference from television, I would suggest a cheap Ku band satellite receiver to get a network feed (such as NBC). Since the dishes are small, it would be reasonable for two amateur stations to have the same clock. Otherwise Loran, GPS etc. are good alternatives.

Absolute stability is not really needed. If all the stations are drifting together, who cares?

Steve Muther WF6R

3869. Re: Speaking of the ARRL Handbook...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4pvno8$r5m$4@mhafn.production.compuserve.com>
Source record: 104597

There are a number of people interested in LOWFERs. The longwave club of america is one resource. There are some BBSs and WEB pages that deal with this. Try YOOHOO (WWW) and search for part 15. I think you will find some good hits.
--
73, Jay WB0VNE - AAV5TH

3870. Re: Cell Phones as 23cm HAM Radios??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-16 00:00:00 UTC
From: Jay Craswell <73016.27@CompuServe.COM>
Message-ID: <4pvnu7$r5m$5@mhafn.production.compuserve.com>
Source record: 104598

I thought (Maybe I'm wrong) that these are 800Mhz phones? If so quite a switch in range. There are some REALLY neat parts for 902Mhz and I'm working now on a project for that band. It may be easier to just go scratch than figure out a phone. For instance they have a single chip that takes the input freq and outputs 64X the freq. With an input to FM the output!

--

73, Jay WB0VNE - AAV5TH

3871. Re: Speaking of the ARRL Handbook...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960617214221.24022A-100000@spork.callamer.com>
Source record: 104529

Let me help you find information on the 1750 meter band. Start with:
http://users.aol.com/lwcanews/ (Longwave Club of America)
If you are in Europe and interested in the new 73 KHz frequency:
http://www.users.dircon.co.uk/~stonix/73kHz/
Then when you really get serious about doing something useful, check with
Bill DeCarle VE2IQ:
http://w3.ietc.ca/home/bill/bbs.htm

The 1750 meter experimeters usually are hams. Only recently has ARRL
acknowleged this license free band. There is very little "store bought"
equipment available making it an EXPERIMENTERS band!
Cliff Buttschardt K7RR ex W6HDO Morro Bay, Calif

On 16 Jun 1996, Jay
Craswell wrote:

> There are a number of people interested in LOWFERs. The longwave club of
> america is one resource. There are some BBSs and WEB pages that deal with
> this. Try YOOHOO (WWW) and search for part 15. I think you will find some
> good hits.
> --
> 73, Jay WB0VNE - AAV5TH
>
>

3872. RF/Amateur Radio Design program - Its free!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jun17.090240.27774@ucl.ac.uk>
Source record: 104530

Over the years I have written a number of small PC programs for solving
RF problems - some professional, others amateur radio. These have now been
put into one program, which may be of use to others. If you want it, complete
with source, please ftp from

medphys.ucl.ac.uk.
Username=anonymous, password = your e-mail address.
get file pub/users/davek/rf/rf.zip

HERE is the README.TXT file. Please read the warnings about me not have the
time to produce decent documentation, so unless you like a challange, its best
you dont get it. Also, note that since its free, there are no guarantees it works-
in fact I know some bits dont - see README.TXT.

RF - A Program to Solve a Number of Radio Frequency (RF) Related Problems.

This DOS based public domain program was written to solve a number of problems
encountered in by professional work and for amatuer radio use. The program has
a number of routines, that solves problems as diverse as designing attenuators,
finding the free space path loss, noise and IP3 of a number of cascaded stages,
selecting blower requirements for valves, designing inductors, finding the
characteristics of transmission lines (both waveguide and coaxial of various
forms), designing RF pre-amps etc etc etc. All the routines were designed to
solve a problem that I (or in some cases someone else) had, at particular instant
in time. Hence the amount of work put into the individual routines depended on
the amount time I had available, the importance I attached to the individual
problem etc etc. Many of the routines are unfinished, having served their
purpose. Some have never really been started. Others work well.

At the present moment in time, I have not the free time nor inclination to
produce any decent documentation. There is however some built in instructions
describing the use of each routine. I would not have bothered to release the
program, but as a few people have expressed interest in the individual routines,
I have done so. Here is a list of the sort of things the program does.

0: EXIT 20: Path loss calculator.
1: General Introduction. 21: Stability from Puff files.
2: Convert real impedances. 22: 2-way microstrip power splitter.
3: Convert complex impedances. 23: Power tube blower requirements.
4: S parameters to lumped circuit. 24: Blower selection.
5: S(dB) to lumped circuit. 25:
6: Series LRC circuit to S. 26:
7: Parallel LRC circuit to S. 27:
8: Build a T, □ or L attenuator. 28:

10: Design a power splitter.
11: Filter design menu.
12: Inductor design menu.
13: Resonance and Q calculations
14: Mixer product calculations. 34: Mixer sprogs - use Minicircuit data.
15: Cascaded NF and IP3.
16: Power conversions.
17: Series/parallel resistor.
18: Transmission line calculator.
19: VSWR, rho and % reflected power.

Numbers 14, 22 and 34 are not really working well. I would deleted them, but its more hassle to do that than tell you they don't work. I gave up with #11 (filter design), since there are good filter design programs around. However, it does implement the constant impedance band-pass filter correctly, which is useful (ie after a mixer) and not well covered in the normal filter design programs. No 23 (blower requirements for valves) is not working properly, so don't use that. I do intend sorting this out (unlike numbers 11, 14, 22 and 34), but so far have not had enough time to find the theory necessary to solve it properly. Most of the others work - more or less. Number 9 is quite clever, as it attempts to deign an RF pre-amp from the S-parameters of the FET used and the DC conditions form the FET. However, it does not test all posibilities for designs, but I think any results it gives are correct.

The program needs ANSI.SYS installed (by puting 'device =c:\dos\ansi.sys' or similar in config.sys). The program is supplied as a compressed ZIP file, RF.ZIP.

Dave Kirkby, G8WRB.

PS If you spot any bugs in the program, or understand how to do what #23 tries to do, please let me know.

Dave Kirkby
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

3873. DELETE ics@icanect.net

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: ics@icanect.NET
Message-ID: <31C4B707.4D74@icanect.net>
Source record: 104599

```
DELETE ics@icanect.net
```

3874. Re: Would a MMIC make a good osc. @ VHF/UHF frequencies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: blombard@iu.net
Message-ID: <4q2d1s$qfk@cc.iu.net>
Source record: 104600

In article <4pvbmp$9tj@sjx-ixn4.ix.netcom.com>, tmahanna@ix.netcom.co says...
>
>
>What do you think? I've got a few of them to try. MAR-6's. I guess I
>could use an MPF102, but I was just wondering. Anyone?
>
>-Tom
>

Sure, you can make a MMIC oscillate. You just need to give it a feedback circuit that provides the required phase shift at the frequency you want oscillation. If your MMIC gives, say, 160 degrees of phase shift, you need to make the phase shift so that the fed back signal adds in phase at the input. (Of course, the feedback needs to have enough signal level so that the net gain around the loop is at least 1).

There have been some magazine articles on doing this, but I don't know the references right offhand.

I think this answers the question....

73,
b

--
Bob Lombardi WB4EHS in Melbourne, FL o \---\---\
blombard@iu.net or blombard@freenet.fsu.edu /\ |
Telescope making, optics, astronomy, piano, bicycling -\ 7 & radio |
I've run out of things I can say in 4 lines. (*)/(*) |

3875. Frequency Standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: daveaa1a@pcix.com
Message-ID: <4q2ee3$62p@alpha.pcix.com>
Source record: 104601

Some time ago I received many correspondence speaking of Frequency accuracy anf how to get it best.
Since then I have stripped 3.58 color burst off network, Loran 'C' from Nantucket and WWV.
For CCW or Spread spectrum purposes, what type do you prefer/use/reccomend.

I'm thinking that Network Color burst say from ABC or any network available to both parties involved
via cable or terrestrial is the way to go.. As long as both parties are using same reference, does it
matter if it's not 10-14th??

Planning to phase lock my 10ghz brick and LowFer Beacon.. What should we use??

Dave Riley AA1A

daveaa1a@pcix.com

3876. Re: 6 METER AM / questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: woody.white@worldnet.att.net
Message-ID: <4q2hpc$3ha@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104602

jwg6@cornell.edu (Joel Govostes) wrote:

>Where is 6m am activity usually found? 50.2? Calling freq.?
>How about 2m am, if it's ever used anymore? What freq.'s?

>Regarding antennas, would a ground plane or horizontally polarized antenna
>be best for 6m band openings when using this mode? From what I
>understand, antennas for weak-signal ssb/CW are horizontally polarized;
>not sure what would be appropriate for am/dx. Thank you, 73
>(pse reply to jwg6@cornell.edu) N1AEP

50.125 MHz is the national calling frew for SSB.
Most activity is from there to about 50.250.

Horz. pol is typ used for CW/SSB, Vert for FM.
Polarization can make big difference for local
work, but for dx openings is less important, it
can shift during propagation.

de Woody (WB4QXE) - woody.white@worldnet.att.net

Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!

3877. Sweep Wave Generator

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: morrisond@misslink.net
Message-ID: <6107cc$162513.5@matilda.misslink.net>
Source record: 104603

Need schematics for a powerful sweep wave generator, modulating tone generator and any sources to get ANY freq. crsytal for radio transmissions.

Thanks!
Curt
morrisond@misslink.net

3878. Re: Simple Radar Detector

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: allanc@cs.su.oz.au
Message-ID: <4q2i7j$nul@staff.cs.su.oz.au>
Source record: 104604
Cross-posted to: rec.radio.amateur.homebrew,sci.electronics.design

In article <31BC3E58.1E6F@whidbey.com>, Paul Mathews <optoeng@whidbey.com> writes:
|> Angus Ross-Thomson wrote:
|> >
|> > Does anyone know of a design for a simple broadband radar
|> > detector?
|> > .....
|> > Can anyone help, or know of a good book?
|> > ...
|>
|>
|> How about simply putting a high performance antenna on an automotive
|> radar detector? Since the advent of laser speed detectors, the older
|> models are available for next to nothing (I'll sell you mine really
|> cheap!). There was a '73' magazine article on modifying them to act as
|> a front-end for a microwave receiver a few years back.
|> --
|> Paul Mathews, consulting engineer
|> AEngineering Co.
|> optoeng@whidbey.com
|> non-contact sensing and optoelectronics specialists

Alternatively from buying Pauls unit....

I found an " Economy Radar Detector " on the web under
CyberCircuit (Circuit du Jour)

It was lifted from " Radio Electronics " Magazine Jul 86 issue (c)
Gernsback Publications Inc. 1986...

Mind you this is old technology, but works...sort of.
allan

3879. Desoldering Guide

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <4q2mie$d4f@hobbes.cc.uga.edu>
Source record: 104605
Cross-posted to: sci.electronics.repair,sci.electronics.design,rec.radio.amateur.homebrew

NOTES ON DESOLDERING

Michael Covington, N4TMI
mcovingt@ai.uga.edu

YOUR COMMENTS ARE INVITED!

I would like to hear from anyone who has experiences to share.
I would especially like to know more about:
- heated Soldapullt-like devices;
- vacuum desoldering stations (Hakko, Pace, etc.)
neither of which I have ever had the opportunity to try.

WHICH TECHNIQUE IS BEST? I use the hot air gun for ICs with 16 pins or more, the Soldapullt for smaller devices.

1. INTRODUCTION

These notes are based on a series of tests that I conducted to try to find the best way to desolder ICs from 4-layer computer PC boards. This is the most difficult desoldering task that I routinely face.

2. THE TIME FACTOR

Desoldering can take time. Removing a 40-pin IC neatly with copper braid can take 30 minutes. That's over $50 worth of technician time, counting overhead costs. Now you know why most people don't repair computers at the component level.

Removing the same IC with the hot-air-gun technique described below takes less than 1 minute, plus another few minutes to clean up the holes with copper braid. Other techniques take intermediate amounts of time.

3. SHORTCUTS

I am assuming you want to preserve both the board and the IC. If you know the IC is bad, you can crush it, clip off all its pins, and then remove the pins one by one. If you want the ICs but not the board, you can heat the board in various unorthodox ways (propane torches have been mentioned) until the solder melts.

4. UNBEND THE PINS FIRST!

Regardless of what technique you're going to use, you should unbend any crimped IC pins before trying to pull the IC out. You can often do this with a tiny screwdriver before desoldering. Sometimes you must remove some of the solder before the pins can be straightened.

5. FREE UP THE PINS BEFORE PULLING!

After you have removed the solder from a joint by any of various methods, grip the pin and wiggle it with pliers to break it loose of any tiny amount of solder that may still be holding it to one side of the hole. Always do this before trying to pull the IC out of the hole.

6. COPPER BRAID

Although rather slow if used by itself, copper braid is an indispensable desoldering tool because of its almost magical ability to pull solder out of holes by capillary action. It's especially handy for cleaning up the solder left behind by other techniques.

Method:

a. Heat iron to 750 F. Insert small tip (end of tip roughly same diameter as hole in circuit board).

b. Place the board flat on the workbench, solder side up.

c. Swab some extra flux on the joint to be unsoldered. (The copper braid contains some flux that _may_ be adequate.)

d. Lay down a piece of copper braid on the joint and apply the soldering iron to it.

e. Inspect your work. With a single-sided board, you may be done. With a multilayer board, you may have to attack each joint as many as five times, using fresh copper braid each time.

Common faults:

a. The copper braid should not be spread out; it should be tightly bunched together. It comes in various widths; match the width to the joint if possible.

Handy hints:

a. You can do several IC pins in rapid succession by laying down a piece of copper braid along them.

b. Trim off the used end of the copper braid before using a fresh spot on it; that way you don't have as much metal to draw heat away.

7. VACUUM TRIGGER PUMP ("SOLDAPULLT")

This technique is faster than copper braid and works very well.

Method:

a. Heat iron to 750 F. Insert small tip (end of tip roughly same diameter as hole in circuit board).

b. Lay board flat on the workbench, solder side up.

c. Quickly re-melt each of the joints and add a small amount of solder to it. This adds some much-needed flux; it also ensures that you have melted through any protective coating on the surface that would otherwise interfere with heat transfer.

d. Apply the soldering iron to the joint. As soon as it melts, move the tip of the iron to the edge of the joint and put the Soldapullt in place.

e. Count five seconds (to ensure melting all the way through the layers) and press the trigger.

f. If the pin is adhering to one side of the hole, free it with the tip of the soldering iron or with pliers.

Common faults:

a. Don't be shy about letting the tip of the Soldapullt touch the tip of the soldering iron. It's unavoidable, and so long as the area of contact is not large, it doesn't do any harm.

b. Make sure the Soldapullt is in good condition. Cock it, put your finger over the end, and press the trigger. The plunger should _not_ go right up. Ideally, it should stop about halfway up, or at least pause. If it doesn't, you probably need a new O-ring (available at any hardware store).

c. Be sure to allow 5 seconds after the joint appears to be melted, before pressing the trigger.

8. HOT AIR GUN

This technique is not widely known but works very well and is quick. I stumbled on it myself and have heard from others who use it. It is my preferred technique when more than 16 pins need to be undone.

Method:

a. Mount the circuit board vertically in a vise so you can get to both sides of it.

b. Attach an IC puller (with rubber band around it for tension) to the IC to be removed.

c. Use a 1200-watt heat gun with a 1/2-inch orifice. Hold the heat gun 1/2 inch from the solder side of the board, sweeping the air stream from one end of the IC to the other. Heat for 30 seconds.

d. Pull the IC out.

e. Clean up the holes with copper braid if a new IC is to be installed.

Precautions:

a. Do not put a smaller nozzle on a hot-air gun than the manufacturer recommends. Nozzles smaller than 1/2 inch require thermostatic heat control to prevent overheating.

b. Do not heat longer than necessary.

c. Do not bend the board while it is hot; or if you do, straighten it while it is still hot (unless you like bent boards!).

d. Be alert for other small components that may come loose when the solder is melted. Be alert for droplets of solder that may occasionally be blown through to the component side.

Does the IC get too hot? Apparently not:

- Many ICs come out with some of the solder, higher up on their pins, still unmelted; that tells me they did not get as hot during desoldering as during original installation.

- My tests have shown that the IC case temperature never reaches 100 C; since ICs are rated to work at 80 C, that seems acceptable.

- ICs are rated to have 330 C on each pin for 10 seconds during installation; with my technique, the pins probably never get that hot, because solder melts at 200 C and the IC is removed as soon as that happens.

- Paper labels on the board, even right under the IC, are not scorched.

9. VACUUM BULB DESOLDERING IRON

Although a real time-saver with single-sided board, my vacuum-bulb iron (Weller DS-40) just doesn't seem to be up to the task with multilayer boards unless supplemented by other methods, such as copper braid.

The main challenges are:

- Heat transfer is difficult. Make sure the tip is well matched to the size of the pad on the PC board and is clean (inside and out) and well tinned.

- PC board traces tend to lift during the prolonged heating that is necessary.

Actually, this may indicate that the DS-40 is running too cool. (It's easier to overheat a board with an iron that is too cool than with one that is too hot.) I may try raising its working temperature with a Variac and see what happens.

10. MORE INFORMATION WELCOME HERE!

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A. not speaking for the University.

3880. Re: 6 METER AM / questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Chris Boone <cboone@earthlink.net>
Message-ID: <4q2m3r$cli@bolivia.it.earthlink.net>
Source record: 104606

jwg6@cornell.edu (Joel Govostes) wrote:
>Where is 6m am activity usually found? 50.2? Calling freq.?
>How about 2m am, if it's ever used anymore? What freq.'s?
>
>Regarding antennas, would a ground plane or horizontally polarized antenna
>be best for 6m band openings when using this mode? From what I
>understand, antennas for weak-signal ssb/CW are horizontally polarized;
>not sure what would be appropriate for am/dx. Thank you, 73
>(pse reply to jwg6@cornell.edu) N1AEP

50.4 is the AM calling/working freq on 6mtrs....still some activity there
when the band is open....

Not sure about 2mtrs...havent heard of any 2mtr AM in years...

As for antennas, horizontal is used on AM style modes (AM/SSB, etc) while
FM uses vertical...thats is mostly true on all bands from 10mtrs and
up...but if the band is open, a vettical on 6AM will work just fine...
If you want to use a horiz antenna, a squalo (square halo) or turnstile
or similar would be best (omni directional)...

73
Chris
WB5ITT

3881. Re: 6 METER AM / questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Chris Boone <cboone@earthlink.net>
Message-ID: <4q2m74$cmo@bolivia.it.earthlink.net>
Source record: 104607

jwg6@cornell.edu (Joel Govostes) wrote:
>Where is 6m am activity usually found? 50.2? Calling freq.?
>How about 2m am, if it's ever used anymore? What freq.'s?
>
>Regarding antennas, would a ground plane or horizontally polarized antenna
>be best for 6m band openings when using this mode? From what I
>understand, antennas for weak-signal ssb/CW are horizontally polarized;
>not sure what would be appropriate for am/dx. Thank you, 73
>(pse reply to jwg6@cornell.edu) N1AEP

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FM uses vertical...thats is mostly true on all bands from 10mtrs and
up...but if the band is open, a vettical on 6AM will work just fine...
If you want to use a horiz antenna, a squalo (square halo) or turnstile
or similar would be best (omni directional)...

73
Chris
WB5ITT

3882. Re: 6 METER AM / questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Chris Boone <cboone@earthlink.net>
Message-ID: <4q2m9c$cn2@bolivia.it.earthlink.net>
Source record: 104608

jwg6@cornell.edu (Joel Govostes) wrote:
>Where is 6m am activity usually found? 50.2? Calling freq.?
>How about 2m am, if it's ever used anymore? What freq.'s?
>
>Regarding antennas, would a ground plane or horizontally polarized antenna
>be best for 6m band openings when using this mode? From what I
>understand, antennas for weak-signal ssb/CW are horizontally polarized;
>not sure what would be appropriate for am/dx. Thank you, 73
>(pse reply to jwg6@cornell.edu) N1AEP

50.4 is the AM calling/working freq on 6mtrs....still some activity
there
when the band is open....

Not sure about 2mtrs...havent heard of any 2mtr AM in years...

As for antennas, horizontal is used on AM style modes (AM/SSB, etc)
while
FM uses vertical...thats is mostly true on all bands from 10mtrs
and
up...but if the band is open, a vettical on 6AM will work just
fine...
If you want to use a horiz antenna, a squalo (square halo) or
turnstile
or similar would be best (omni directional)...

73
Chris
WB5ITT

3883. Re: 6 METER AM / questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Chris Boone <cboone@earthlink.net>
Message-ID: <4q2m3a$clc@bolivia.it.earthlink.net>
Source record: 104609

jwg6@cornell.edu (Joel Govostes) wrote:
>Where is 6m am activity usually found? 50.2? Calling freq.?
>How about 2m am, if it's ever used anymore? What freq.'s?
>
>Regarding antennas, would a ground plane or horizontally polarized antenna
>be best for 6m band openings when using this mode? From what I
>understand, antennas for weak-signal ssb/CW are horizontally polarized;
>not sure what would be appropriate for am/dx. Thank you, 73
>(pse reply to jwg6@cornell.edu) N1AEP

50.4 is the AM calling/working freq on 6mtrs....still some activity there
when the band is open....

Not sure about 2mtrs...havent heard of any 2mtr AM in years...

As for antennas, horizontal is used on AM style modes (AM/SSB, etc) while
FM uses vertical...thats is mostly true on all bands from 10mtrs and
up...but if the band is open, a vettical on 6AM will work just fine...
If you want to use a horiz antenna, a squalo (square halo) or turnstile
or similar would be best (omni directional)...

73
Chris
WB5ITT

3884. CCW Library online

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: JFM001@DENTAL3.AB.UMD.EDU
Message-ID: <199606171153.HAA10414@comm1.ab.umd.edu>
Source record: 104610

To those who enjoy CCW -
I would like for all who are interested in CCW to know that the library is now online. It contains the newsletters and articles about CCW over the last 25 yrs. Please surf to:
<http://www.clark.net/pub/mcclun>

I hope that all CCW operators find something of interest from: Petit, Woodson, Lumb, De Carle, deKatt or others. If you want to put an article in the library please Email me and I will contact you.

John N3REY
Always QRP!

3885. Schematic of radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: slug@cygnus.ci.uc.pt
Message-ID: <4q3oct$7ff@morgana.mat.uc.pt>
Source record: 104611

Hello,

I'm searching for the schematics of a CB radio to convert it to 10m operation
The radio is a Guaranty 4000...

tks in advance,bye

()'s
Nuno Sucena CB: CQG9304 HAM: CT1FOX
http://www.ci.uc.pt/~slug/ Universidade de Coimbra
Maluquinho da electronica Sysop da Aeminium BBS
X-Files, Linux, OS/2 Rulz!

3886. Re: Where to buy NE602?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: benjy@vt.edu
Message-ID: <4q3rks$rb9@solaris.cc.vt.edu>
Source record: 104612

In article <4prv15$ev0@ausnews.austin.ibm.com>,
keen@austin.ibm.com () writes:
>
>I'm trying to locate a source for several NE602 local oscillator/mixer chips.
>All my normal suppliers (Digi-Key, Mouser, etc) seem not to carry it.
>
>R.G.

Several others posted sources for the NE602. I recently got some from
DC Electronics via mail order for $2.25. I'm not sure if the 800
number still works, but here's their info:

DC Electronics
P.O. Box 3203
Scottsdale, AZ 85271
602-945-7736
800-423-0070
602-944-1707 (FAX)

There's a $15.00 minimum. I've been satisfied with the service I get
from these folks.

Benjy
--
Benjy Cline, AC4XO, Ph.D.
Virginia Tech Computing Center
benjy@benjy.cc.vt.edu
http://benjy.cc.vt.edu:1951/~benjy/

3887. Re: Frequency Standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4q3qvg$ld@news.calweb.com>
Source record: 104613

daveaa1a@pcix.com wrote:
>Some time ago I received many correspondence speaking of Frequency accuracy anf how to get it best.
>Since then I have stripped 3.58 color burst off network, Loran 'C' from Nantucket and WWV.
>For CCW or Spread spectrum purposes, what type do you prefer/use/reccomend.
>
>I'm thinking that Network Color burst say from ABC or any network available to both parties involved
>via cable or terrestrial is the way to go.. As long as both parties are using same reference, does it
>matter if it's not 10-14th??
>
>Planning to phase lock my 10ghz brick and LowFer Beacon.. What should we use??
>
>Dave Riley AA1A
>
>
>daveaa1a@pcix.com
>

For absolute accuracy the clear choice(of those you gave) is to
use the LORAN signal.

I use a 1 MHz oscillator and a devider chain to get a pulse at the same
rate as the LORAN in my area. I use the pulse to sample the phase
of a cycle in the LORAN pulse. I use that infor to stear my 1 MHz
oscillator.
My system has some drift due to drift in the analog phase sampler
so my accuracy (1 to 2 hour period) is limited to about 10E-10

Bill K7NOM

3888. Variable-length ladderline tuner: implementation issues

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: psoper@encore.com
Message-ID: <Dt5H5B.J6A@encore.com>
Source record: 104614
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I got no responses to my recent posting about how to design the
R/C circuit for damping relay coils as they are de-energized.
The Sams' Radio Engineering book rates a series resistor/capacitor
circuit as third in effectiveness after a single diode or back to
back diode pair for controlling high voltage as the relay coil field
collapses. I'm concerned that the diode route might get me into
trouble with nearby RF fields (i.e. as a nonlinear element and
thus potential RFI source), but 'm not savvy enough to chose the R/C
values for my relays (12 volt, 400 ohm coils), thus the posting.

My concern is that each time I flip off a relay as I switch the
tuner a noise spike will be induced into the nearby ladder line,
attempting to break my eardrums. Perhaps this is a non-issue?
Anyway, I'll go the empirical route and test for receiver "pops"
after wiring up the first relay.

This device I'm building is an array of seven relays spaced three inches
apart on a strip of lucite. Loops of 300 ohm ladder line of larger
and larger dimensions are switched in or out of the transmission
line connection between an antenna and the transceiver (via a 4:1 balun
and variable capacitor). The initial loops will run out from the
end of their relays and be held apart with more bits of lucite or PVC
while the longer loops will go up and around the back side of the
shack, held in place with insulated standoffs.

The goal is to arrange a 200 ohm resistive load at the balun to get an
effective match with low losses. This project is my best guess about
how to implement the tuner that Cecil Moore dreamed up and has alluded
to in frequent postings to the antenna group.

But the devil is in the details, and I'm now quite concerned that
my chances of maintaining balance with all the interconnects among
the relays will be poor. I'm wondering if (assuming imbalance),
I might tweak the length of one side of one piece of ladder line
to regain proper phase relationships? Would a dual trace scope
connected to each side of the line show me lack of balance and
allow this adjustment, preventing radiation from the ladder line run
from the tuner to the balun (i.e. at the operating postition)?
Again, I'll initially simply hook the tuner up and see if I have
RF in the shack, but I'm trying to anticipate how to handle this
if it is an issue.

Oh, another devilish detail came when I tried to connect the ladder
line to the relay wiper contacts. I removed the internal wires
connecting the wipers to the connector pins on the other end of

the relay, figuring this would be hopeless from a balance point of view. So now the ladder line loops comes in the end of the relay, in line quite nicely with the two pairs of wiper arms. I cut slots in the plastic relay covers to allow the ladder line in while expecting to be able to seal the slot with coax-seal after everthing was sorted out. But it turned out there still wasn't clearance for the ladder line to pass through, so I had to abandon the plastic covers. So now I have seven "open frame" relays that are going to be sitting under the floor of the end of my shack, effectively outdoors. I'm now scheming some way to keep dust and insects out of the contacts! A bit of Saran Wrap (cling film) is the only idea I have so far.

Pardon me if this sounds idiotic (or IS idiotic!). I knew nothing about RF just a few months back and am learning as quickly as I can.

Regards,
Pete
KS4XG

3889. Re: Simple VLF radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: sholmes@cais.com
Message-ID: <sholmes-1706961139590001@192.0.2.1>
Source record: 104615

In article <4q1lp5$eje@shellx.best.com>, stevem@shellx.best.com (Stephen Muther) wrote:

> In article <4q1crm$3b0q@yuma.ACNS.ColoState.EDU>,
> Emarit Ranu <drranu@holly.ACNS.ColoState.EDU> wrote:
> >
> > I am interested in listening to the natural EM noise in the VLF
> > spectrum (2-11kHz). I have been unable to find a schematic or
> > other source from which to build a VLF receiver. Does anyone
> > know where I would find this?
[...]
> I recently took an interest in this myself. You should check out the
> Longwave Home Page: http://users.aol.com/lwcanews/lwcanews.html
> The section "File Library" includes a link "Natural Radio Files"
> Which points to a couple of different designs. The page has all
> kinds of other useful info on VLF.

You might also want to check out <http://www-pw.physics.uiowa.edu/mcgreevy/>
Mr. McGreevy has plans and kits available for a VLF/ELF receiver, and
has (in the past) posted ASCII-art schematics to rec.radio.shortwave
(which, now that I think about it, is a completely "inappropriate"
group, given the wavelengths involved ;-)

/s.holmes

--
Stephen R. Holmes | sholmes@cais.com | the usual disclaimers
TNS, Inc. | Add yourself to the | .....
Reston, VA USA | 411 white pages! | witty saying TBD

3890. Re: Where to buy NE602?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Madjid <orion@odyssee.net>
Message-ID: <31C596AE.2FA7@odyssee.net>
Source record: 104616

keen@austin.ibm.com wrote:
>
> I'm trying to locate a source for several NE602 local oscillator/mixer chips.
> All my normal suppliers (Digi-Key, Mouser, etc) seem not to carry it.
>
> R.G.

They are 2.49$ a piece at:

OCEAN STATE ELECTRONICS
PoBox 1458
6 Industrial Drive
Westerly, RI, 02891
Tel: 1-401-596 3080
1 800 866 6626 (Orders)
1 401 596 3590 (FAX)

Madjid BOUKRI, VE2GMI Internet: orion@odyssee.net
Antenna simulation program NEC4WIN found at:
http://www.coast.net/SimTel/SimTel/win3/hamradio/nec4w15.zip

3891. Re: Variable-length ladderline tuner: implementation issues

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Cecil Moore <kg7bk@primenet.com>
Message-ID: <4q429t$7qt@nnrp1.news.primenet.com>
Source record: 104617
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Pete Soper <psoper@encore.com> wrote:
: I got no responses to my recent posting about how to design the
: R/C circuit for damping relay coils as they are de-energized.

Hi Pete, I didn't see your posting. What was the subject? Are you sure it got posted? What I have done is drive the relay with double the rated voltage with a resistor in series equal to the coil resistance and a 0.1 pf cap across the coil.

: My concern is that each time I flip off a relay as I switch the
: tuner a noise spike will be induced into the nearby ladder line,

I wouldn't recommend switching the relays with RF on them. What I do is switch the relays without RF on them, then apply RF and write down the results. From then on, simply consult the chart and preset the relay position depending on frequency.

: Again, I'll initially simply hook the tuner up and see if I have
: RF in the shack, but I'm trying to anticipate how to handle this
: if it is an issue.

I try not to anticipate problems but solve them as they arrise. Quite often an anticipated problem never occurs.

: Oh, another devilish detail came when I tried to connect the ladder
: line to the relay wiper contacts. I removed the internal wires
: connecting the wipers to the connector pins on the other end of
: the relay, figuring this would be hopeless from a balance point of
: view. So now the ladder line loops comes in the end of the relay,
: in line quite nicely with the two pairs of wiper arms. I cut slots in
: the plastic relay covers to allow the ladder line in while expecting
: to be able to seal the slot with coax-seal after everthing was
: sorted out. But it turned out there still wasn't clearance for
: the ladder line to pass through, so I had to abandon the plastic
: covers.

I kept the covers, brought the common wires out holes in the covers and fastened them to the ladder-line outside the relay cover. I found that trying to solder the ladder-line to the common moving arms caused the relay electro-mechanical sensitivity to change for the worse. I used a glue gun to seal the holes.

73, Cecil, KG7BK (W6RCA soon), OOTC

3892. looking for 4 contact plug for FT-50R Mic/Ear Jack

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: JungHo Yu <yu.130@pop.service.ohio-state.edu>
Message-ID: <4q43qs$gvq@charm.magnus.acs.ohio-state.edu>
Source record: 104618

hi,
i'm looking for 4 contact plug for FT-50R 'cause i wanna make TNC cable.
if u have this stuff or know where i can find this , pse email me..
73s de Matt

--
Yu.130@osu.edu
Amateur Radio Callsign KC8DJQ / DS5RTN
OHIO STATE UNIV.

3893. Key Snapper

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Rick Miller <rick@DigalogSys.com>
Message-ID: <Pine.LNX.3.91.960617145643.17145A-100000@net.digalogsys.com>
Source record: 104619

Hi!

I've been having gobs of fun playing with PIC microcontrollers now
that I've got CCS's C compiler. :-) Am I a happy camper, or what?

Anyway, I'm thinking of making a "fist-straightener"... The general idea
is to take my striaght-keyed input and turn it into machine-perfect 3-to-1
"dah"s and "dit"s at whatever overall speed I'm sending out. It could
even snap the silent spaces to the same time grid.

Has anyone heard of such a thing already existing?

I'd like opinions on how use{ful,less} such a thing might be.

Once I've coded and tried it, I'll let the newsgroup know how it went.
(Of course, I'll make the source code available too.)

Rick Miller
Was KA9JHH, new license exam in July!

3894. Homebrew QSL Cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Stephen John Farthing <stephen@stevef.demon.co.uk>
Message-ID: <XEG7rDAk3ZxxEwGY@stevef.demon.co.uk>
Source record: 104620

If this seems off topic please excuse me.
I intend to make my own QSL Card design and either get it
photographically duplicated or printed. I would like the front to be
interesting and unusual. Any thoughts on what I should put on it or what
I should avoid?
On the back I'll put:-

To Radio :-
Date:-
UTC:-
Freq:-
RST:-
Mode:-
Pwr:-
RX:-
TX:-
Ant:-
My Address:-
Comments:-

Is there anything else that would be useful, for example Map Reference?

I intend to make a 4x copy on a paste board and reduce it to 140x90mm
using a photocopier.

--
Stephen John Farthing MBCS G0XAR
Melksham, Wiltshire UK
RSGB G-QRP 7766

3895. Re: Novice QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4q4lgb$po3@mksrv1.dseg.ti.com>
Source record: 104621

Congratulations, Dennie! I applaud your decision, but I urge you to exercise some caution...

I operate nothing but QRP CW, and have been this way for many years. It is a very satisfying facet of the hobby, and it's not for everyone.

As for novice QRP rigs, I am not a big fan of the idea, and I'll explain why. For most novices, the code is a new experience, and probably a bit difficult for them. This puts them at a distinct disadvantage. Operating with the typical QRP rig, with very low power on transmit and often a less than ideal receiver, the disadvantage is many times greater. It makes an already difficult situation into a huge ordeal. Of course, using one of the modern HF rigs with the transmitter power cranked down (as I often do with my new TS-870S), the operator can take advantage of the better receiver and other features. But the low-power disadvantage is still there. The person on the other end is likely to be a novice also, and he/she will have a lot of trouble digging that weak signal out of the noise, in addition to having a potentially difficult time just copying the code. I'm just not a fan of the beginner starting out on today's noisy, crowded HF bands with low power and a compromise receiver.

Yeah, I know, in the old days, we used some really junky receivers that drifted and had no selectivity, and we were crystal-bound and limited to 75 Watts DC input. But remember, the bands were not nearly as crowded, and the man-made noise levels were far, far lower than they are today, with all of the RF-dirty consumer electronic devices polluting the radio spectrum practically from DC to light. Think about it.

I recommend, in most cases, that the novice start out with 50 to 100 W and a good receiver, get used to working CW and get good at it, and then ease into QRP, learning the ropes slowly as he/she goes.

This is my humble opinion, which may be wrong to some of you readers. Flame me privately, if you feel some burnign need to do so.

73 de KC5NG/QRP

3896. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4q4lu1$po3@mksrv1.dseg.ti.com>
Source record: 104622

(snip)
>You can use modified commercial or CB radios in the amateur bands if you
>have an amateur license, but you can't modify any radio to operate in a
>commercial or CB bands. Radios for non-ham bands generally need to be FCC
>type-accepted, which a radio you modified would no longer be. Amateur
>radios don't need to be type-accepted, so you can make/modify your own
>radio for use in the ham bands.

You are correct on the above. Modifying ham gear to work CB is a no-no!

>As far as Mark's question, I have an old Uniden Cobra 148 that I've been
>wanting to convert to 10M. They're readily available and the schematics
>are easy to find also. I'll have to select a few new components in the RF
>section because it's not going to work too well 2MHz out of band, but I
>think it's reasonable to do it with this radio. It only outputs 5 watts
>(all the cheaper CBs will put out around 3 watts), so it will be my QRP
>radio in a couple of years when 10m opens up.

Bill, I have converted literally DOZENS of CB rigs to 10m over the past
19 years I've been a ham. Never once have I found a need to modify the
RF section (or any other section) to make it perform 100 percent on 10m.
You'd be surprised at how broad-banded these things are, and how far you
can tune 'em with very little effort. Most can be tuned for anything
from 22 to 30+ MHz. I've helped friends convert CBs to 12 meters (that's
24.9 MHz for those who didn't know) and only a re-tune was required to
make 'em work (plus the usual crystal changes, of course). Also, what-
ever the power output was on 11m, it will be on 10m. A typical SSB CB
rig will put out between 10 and 15 Watts PEP, and it will do the same
after 10m conversion. If your Cobra 148 is only putting out 5 Watts on
SSB, it either desparately needs alignment, or something's wrong with
the transmitter section, or perhaps both.

You'll be pleased with the Cobra 148's performance on 10m. I ran one
for several months during the last sunspot cycle, and I worked all over
the world with it.

73 de KC5NG

3897. Morse code FSK?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: cmoore@vegas.ch.intel.com
Message-ID: <4q4jh8$1ri2@chnews.ch.intel.com>
Source record: 104623

Has anybody tried Morse code over an RTTY modem? Run an
audio oscillator from the mark output? It's not RTTY
and it's not CW. Is it legal?

73, Cecil, KG7BK, OOTC (not speaking for my employer)

3898. Re: Cell Phones as 23cm HAM Radios??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4q4na5$316@antares.en.com>
Source record: 104624

Steve Roberts <osteven@en.com> wrote:
>
>
> > Regarding the post on cell phone conversion
> to 23 cm, I've bought several units with that
> idea in mind. Unfortunately while they are great
> sources of RF parts and have a nice 7 watt
> amp module, (in the larger units) the VCOs
> in the phase lock loop are for low side injection and
> I've found with some experimentation that they usually
> range from 730-854 Mhz.

OK ran out of space in the first post,
I forgot to mention three things:

0. You are probably not going to be able to reprogarm the cell phone CPU,
so scrap the phone for parts. TV tuner plls and prescalers are a few
dollars each new so why bother?

1 getting cell phone VCO modules working:

take a ohm meter, find the two leads on the VCO that show
some DC resistance, theses should be power and ground.
Start with a five volt power supply, and a frequency counter and
a six inch piece of wire, the ground lead is usually shorted to the metal case,
the 5 volts is low enought that you wont blow anything. go through all
the possible combinations of DC in, ground, and RF out. One other lead will
be the varacter, and these need 1.2 to 30 volts generally, Use the 6 inch piece of
wire soldered each lead as a antenna to couple to the counter.

Mini Circuits labs sells a range of VCOs from 2Mhz to 2000 Mhz, usually at say
16 dollars each, if your cell phone has the VCO as discretes on the board.

2. The amplifers usually run off seven volts DC at say a amp,
they usually need a bias voltage applied through a choke that
blocks 900 MHZ, applied to the RF input lead. Note that you can find the
RFin RFOUT leads usually at the left and right respectfully with ground and
VCC leads mixed inbetween. The bias voltage is usually adjustable from
0 to say 3.2 volts, more then that blows the amp. They will feed back and oscillate
if not heatsinked in wired properly so observe how the amp was mounted in the phone.

Hope this helps some one do a cell to 900 conversion,

Steve Roberts, N8vkd.

3899. Re: Cell Phones as 23cm HAM Radios??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4q4lq0$28t@antares.en.com>
Source record: 104625

> Regarding the post on cell phone conversion
to 23 cm, I've bought several units with that
idea in mind. Unfortunately while they are great
sources of RF parts and have a nice 7 watt
amp module, (in the larger units) the VCOs
in the phase lock loop are for low side injection and
I've found with some experimentation that they usually
range from 730-854 Mhz. Most cell phones do not use a
standard off the shelf phase lock loop chip that you can
get docs for. What I did find interesting was
using a cheap CMOS TV tuner chip, the vcos from the cell phone
and a NTE 851 series TV tuner prescaler and a simple low pass filter,
a recent microwave column in 73 magazine had a good example of how to do
this only using a TV tuner lo as the VCO. Some older cell phones,
(the big Rola underseat monsters) have a neat 45 Mhz IF board, and by
mixing the cell phone VCO with 100 Mhz, you could make a nice unit,
by scavenging the phone for parts, but the newer units have fixed ceramic
filters that will not let you go out of band. Older base station units have
a 900 mhz capable tuned cavity filter that was quite useful and went right to 922.

Some really old phones use a 380 to 432 mhz oscillator module, and this
ran into a doubler module. This worked quite well when the 432 module was replaced
by a biz band rig programmed for 450 and up

The power amps use a few milliwatts of RF in and if you derate them from their
7 watt power rating they go right up to say two watts at 900. They need a dc bias to set
power, email me for details.

3900. Re: Homebrew QSL Cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: n4jvp@ix.netcom.com
Message-ID: <31c5ca9b.4077998@snews2.zippo.com>
Source record: 104626

On Mon, 17 Jun 1996 19:03:16 +0100, Stephen John Farthing
<stephen@stevef.demon.co.uk> wrote:

>If this seems off topic please excuse me.
>I intend to make my own QSL Card design and either get it
>photographically duplicated or printed. I would like the front to be
>interesting and unusual. Any thoughts on what I should put on it or what
>I should avoid?
>On the back I'll put:-
>
>To Radio :-
>Date:-
>UTC:-
>Freq:-
>RST:-
>Mode:-
>Pwr:-
>RX:-
>TX:-
>Ant:-
>My Address:-
>Comments:-
>
>Is there anything else that would be useful, for example Map Reference?
>
>
>I intend to make a 4x copy on a paste board and reduce it to 140x90mm
>using a photocopier.
>
>--
>Stephen John Farthing MBCS G0XAR
>Melksham, Wiltshire UK
>RSGB G-QRP 7766

Make certain to include your callsign on the side with the QSO
information. That makes it a lot easier on the folks who handle a
large amount of cards (ie DX managers).

73 de N4JVP
Fritz

3901. Re: Frequency Standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: Robert Mansfield <bmansfie@interaccess.com>
Message-ID: <31C5F8F4.4630@interaccess.com>
Source record: 104627

daveaa1a@pcix.com wrote:

Some time ago I received many correspondence speaking of Frequency
accuracy anf how to get it best.
Since then I have stripped 3.58 color burst off network, Loran 'C' from
Nantucket and WWV.
For CCW or Spread spectrum purposes, what type do you
prefer/use/reccomend.

I'm thinking that Network Color burst say from ABC or any network
available to both parties involved
via cable or terrestrial is the way to go.. As long as both parties
are using same reference, does it
matter if it's not 10-14th??

Planning to phase lock my 10ghz brick and LowFer Beacon.. What should
we use??

Dave Riley AA1A

daveaa1a@pcix.com

The burst that you get from off the air network feed is nolonger that
good a most stations now use a frame syncronizer with there net feeds
so that the best frequency accuracy is that of the local sync generator.

Bob Mansfield
WA8USR

3902. New Canadain Pirate Radio Web site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-17 00:00:00 UTC
From: glen@speedline.ca
Message-ID: <6117cc$142b18.31b@news.speedline.ca>
Source record: 104628

Check out Canada's only web site dedicated to pirate radio. Online pirate radio newsletters, text files, audio clips (now in Real Audio), pictures, our own loging area, current info on where to find the most current Pirate radio stations, and much more. The address is: http://www.speedline.ca/~glen

Glen Glisinski
glen@speedline.ca

3903. Re: Would a MMIC make a good osc. @ VHF/UHF frequencies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4q4s5l$58t@hpscit.sc.hp.com>
Source record: 104531

In article <4q2d1s$qfk@cc.iu.net>, Bob Lombardi <blombard@iu.net> wrote:
>
>Sure, you can make a MMIC oscillate. You just need to give it a feedback
>circuit that provides the required phase shift at the frequency you want
>
>There have been some magazine articles on doing this, but I don't know
>the references right offhand.
>
>Bob Lombardi WB4EHS in Melbourne, FL o \---\---\

See Mike Driscoll's papers at the last half dozen or so IEEE Frequency
Control Symposia. He has probably done more work with MMIC oscillators
than anyone else.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3904. Re: Homebrew QSL Cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: kg5u@hal-pc.org
Message-ID: <4q5cd4$97s@news.hal-pc.org>
Source record: 104532

Stephen John Farthing <stephen@stevef.demon.co.uk> wrote:

>On the back I'll put:-

Stephen, don't put the info on the back. It may seem neat and simple,
but when a QSL manager is going through hundreds or thousands of
QSL's, the QSL's with the info on the front is always easier to
process. If you are going to put the information on the back, please
be sure and include your callsign, so the person processing can read
all the information on one side.

>To Radio :-
>Date:-
>UTC:-
>Freq:-
>Mode:-
>RS(T):-
Note that I have reversed the Mode and RS(T)....that's a more normal
progression.

Separate the info above from the info below to reduce congestion

>Pwr:-
>RX:-
>TX:-
>Ant:-
>My Address:-
>Comments:-

>Is there anything else that would be useful, for example Map Reference?
(if you were in the USA, I would suggest County on your card)
Grid Square Number
10-10 Number

>I intend to make a 4x copy on a paste board and reduce it to 140x90mm
>using a photocopier.

Good luck,
Dale, KG5U
kg5u@hal-pc.org
http://www.hal-pc.org/~kg5u -- check it out for some of my favorite
QSL's.

Dale L. Martin
Houston, TX
kg5u@hal-pc.org
my homepage: http://www.hal-pc.org/~kg5u

3905. Ic Wanted TC5080

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Bill Sample <bills@enternet.co.nz>
Message-ID: <01bb5cdf.33c791c0$2d601bca@bills.enternet.co.nz>
Source record: 104533

Wanted IC type TC5080 or ECG1207 divider chip for IC22s PLL.
Bill Sample ZL1AXZ
bills@enternet.co.nz

3906. Re: Homebrew QSL Cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: gelleric@kafka.informatik.uni-stuttgart.de
Message-ID: <4q5pjl$co4@zdi.informatik.uni-stuttgart.de>
Source record: 104534

In article <XEG7rDAk3ZxxEwGY@stevef.demon.co.uk>, Stephen John Farthing
<stephen@stevef.demon.co.uk> writes:
|> If this seems off topic please excuse me.
|> I intend to make my own QSL Card design and either get it
|> photographically duplicated or printed. I would like the front to be
|> interesting and unusual. Any thoughts on what I should put on it or what
|> I should avoid?
|> On the back I'll put:-
|>
|> To Radio :-
|> Date:-
|> UTC:-
|> Freq:-
|> RST:-
|> Mode:-
|> Pwr:-
|> RX:-
|> TX:-
|> Ant:-
|> My Address:-
|> Comments:-
|>
|> Is there anything else that would be useful, for example Map Reference?
|>

If you intend to do UHF or VHF, you should include your locator.

73, Wolfgang DJ3TZ

3907. Need help - HW101 problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: jwg6@cornell.edu
Message-ID: <jwg6-1806960643510001@cu-dialup-0809.cit.cornell.edu>
Source record: 104535

I just inherited a Heath HW101 which I've cleaned up; it receives well but I'm having considerable trouble with the transmitter. Unfortunately I have no manual. Can anyone lend some advice toward troubleshooting this rig?

1. Can't load up transmitter. When in "tune" mode, I get virtually no meter reading, no matter what I do with the final and load controls. I replaced the 6146's but made no difference. If I connect a swr/power meter to the output/ant I can get a 1/4 scale reading, but only if the sensitivity on the meter is turned all the way up. So it must be less than a watt or two that I'm getting, max.

2. With key connected, there is no activation of transmitter in CW mode. All I get are some faint clicks from the speaker when key opens and closes. No tripping of relay, receiver doesn't even go quiet, no rf output. No sidetone generated either. If I key microphone, however, the relay kicks in and receiver mutes properly - no tx rf tho'.

3. Can't find any sidetone adjustment - is it on a board somewhere?

I have poked around with a probe (insulated) and it appears all tubes are connecting okay. ANY ideas or advice would be great, many thanks, N1AEP

3908. Re: New Canadain Pirate Radio Web site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: chonky@fly.cc.fer.hr
Message-ID: <4q658g$7at@bagan.srce.hr>
Source record: 104536

Glen Glisinski (glen@speedline.ca) wrote:
: Check out Canada's only web site dedicated to pirate radio. Online
: pirate radio newsletters, text files, audio clips (now in Real Audio),
: pictures, our own loging area, current info on where to find the most
: current Pirate radio stations, and much more. The address is:
: http://www.speedline.ca/~glen

Would you be so kind and check if you haven't missed the newsgroup?

I don't think that anybody here is interested in that stuff.

--
********** CHONKY **********
* Kristijan Conkas |e-mail :Kristijan.Conkas@fer.hr *
* Faculty of electrical engineering |http://rasipl1.rasip.etf.hr/~chonky/ *
* and computing |hamradio:9A3QN *
* University of Zagreb, Croatia |phone :+385 1 73 03 12 *
****

3909. Re: Half duplex robot communication

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Dj Merrill <deej@vsl.ist.ucf.edu>
Message-ID: <31C6AB8D.59E2@vsl.ist.ucf.edu>
Source record: 104537

Bill Standing wrote:
>
> I' looking for a quick and dirty, 6 or 2 meter, half duplex, AM (or FM)
> modem circuit that will support a 50kbaud signal. The link will be between
> a host computer and a mobile robotic platform no more that 50 feet away.
>

Check out "http://hydra.carleton.ca/articles/hispeed.html"

-Dj

--

Dj Merrill Institute for Simulation and
Training / UCF
Associate in Simulation 3280 Progress Drive, Orlando, FL
32826
deej@vsl.ist.ucf.edu - N1JOV (407) 658-5513 / Fax: (407) 658-5059

"BSD: The way Unix should be"

3910. Wanted : SCA decoder kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: hh357@aol.com
Message-ID: <4q67on$sj@newsbf02.news.aol.com>
Source record: 104538

Can anyone here direct me to a good SCA decoder kit or board?

3911. Re: Desoldering Guide

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: bewing@vais.net
Message-ID: <4q6a2m$pb5@earth.vais.net>
Source record: 104539
Cross-posted to: sci.electronics.repair,sci.electronics.design,rec.radio.amateur.homebrew

>YOUR COMMENTS ARE INVITED!

>I would like to hear from anyone who has experiences to share.
>I would especially like to know more about:
> - heated Soldapullt-like devices;
> - vacuum desoldering stations (Hakko, Pace, etc.)
>neither of which I have ever had the opportunity to try.

Mike : Great post. You've clearly outlined the important stuff. Wish I could have read that a few years ago! I've never worked with hot air, mostly because of a concern for the normal lack of control. But I just ordered a Pace Thermojet (for soldering only, really)

>NOTES ON DESOLDERING

>WHICH TECHNIQUE IS BEST? I use the hot air gun for ICs with 16 pins or
>more, the Soldapullt for smaller devices.

>c. Quickly re-melt each of the joints and add a small amount of solder
> to it. This adds some much-needed flux; it also ensures that you
> have melted through any protective coating on the surface that would
> otherwise interfere with heat transfer.

I think an important factor here is that as it ages, solder oxidizes, and the oxidized solder doesn't flow. Adding new solder dilutes the mix, and breaks up the micro-chunks.

>a. Don't be shy about letting the tip of the Soldapullt touch the tip
> of the soldering iron. It's unavoidable, and so long as the area of
> contact is not large, it doesn't do any harm.

For this reason, I used to apply heat on the component side, and suck from the bottom. But these days, we use heated solder suckers.

>Does the IC get too hot? Apparently not:

> - Many ICs come out with some of the solder, higher up on their pins,
> still unmelted; that tells me they did not get as hot during
> desoldering as during original installation.

Again, some of this may be oxidized solder. But I think that with your experience, you're probably controlling the heat and the chips are OK.

3912. Re: Would a MMIC make a good osc. @ VHF/UHF frequencies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4q6b70$2kf@newsbf02.news.aol.com>
Source record: 104540

In article <4pvbmp$9tj@sjx-ixn4.ix.netcom.com>,
tmahanna@ix.netcom.com(Thomas R Mahanna) writes:

>
>What do you think? I've got a few of them to try. MAR-6's. I guess I
>could use an MPF102, but I was just wondering. Anyone?
>
>-Tom
>
>

Hi Tom,

The circuit needs to supply 180 degree external phase shift, most circuits that I've seen are pretty broad in phase shift and usually have a basic low pass or high pass design. That makes the oscillator pretty unstable. The way around this is a series tuned link coupled tuned circuit.

MMIC's have a low input and output impedance, complicating the external circuit. They load the external circuit heavily.

MMIC's require external current limiting, and that aggravates temperature related drift. You just can't feed them from a voltage regulated supply, there has to be current limiting after the voltage regulator. When MMIC temperature changes, the thing drifts.

MMIC's have a lot of internal negative feedback, and don't saturate or AGC well. That makes a MMIC oscillator a bit fussy about feedback level, and prone to parasitics and a bit dirty. The way around that is to add an external limiter or AGC in the feedback loop.

Other than that, they work.

73 Tom

3913. Re: Laser Link Info Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4q6buv$r3l@antares.en.com>
Source record: 104541

gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>
> In article <4p57ap$22u@news.tcd.net> kj7az@coffey.com (Tim Taylor) writes:
> >Has anyone tried building a laser link between two repeater sites and
> >what where the results. We are concidering setting up a link between
> >a 10 meter transmitter and a 10 meter reciever at about 7 miles apart
> >as the crow flies. The 10 meter reciever will be connected into the
> >local 2 meter repeater and the laser will be used to communicate to
> >the remoter 10 meter transmitter.
>
>
>
> The beast you want is known as a Acousto OPtic Modulator, its a
chunk of quartz with a piezo transducer bonded to it and driven by a
few watts of RF, it produces a defraction grating in the crystal and
by setting angle of the laser beam very carefully with respect to the crystal you can
either AM or ON/OFF modulate the beam of the laser. This is a off the shelf
device and sells for say $200 used and complete with driver module,
I'd go digital using a codec and on/off modulate the beam with the digital code.
LCD shutters are not fast enough for your application as suggested in the previous post.
7 miles is a long way and you will need a columnating telescope to expand the beam
and reduce its divergence.The book you want to check out is titled Laser Experimenters
Cookbook,
88 ways to use a laser. You are probably better off with a RF link,
especially if you have a lot of snow or rain. I do laser lightshows and its
hard to get a beam to hit something and stay there at 7 miles as the beam acts as
a optical lever.

Surplus AOMs are available from many laser surplus companies on the net,
good luck.

Steve N8VKD

3914. Re: Variable-length ladderline tuner: implementation issues

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Jay123a <jay123a@gargamel.ptw.com>
Message-ID: <31c6c09e.0@205.230.56.7>
Source record: 104542
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

psoper@encore.com (Pete Soper) wrote:
>I got no responses to my recent posting about how to design the
>R/C circuit for damping relay coils as they are de-energized.
>The Sams' Radio Engineering book rates a series resistor/capacitor
>circuit as third in effectiveness after a single diode or back to
>back diode pair for controlling high voltage as the relay coil field
>collapses. I'm concerned that the diode route might get me into
>trouble with nearby RF fields (i.e. as a nonlinear element and
>thus potential RFI source), but 'm not savvy enough to chose the R/C
>values for my relays (12 volt, 400 ohm coils), thus the posting.
>
>My concern is that each time I flip off a relay as I switch the
>tuner a noise spike will be induced into the nearby ladder line,
>attempting to break my eardrums. Perhaps this is a non-issue?
>Anyway, I'll go the empirical route and test for receiver "pops"
>after wiring up the first relay.
>

>Pete
>KS4XG

Hello Pete:

Just use a diode across the relay coils to attenuate the relays
de-energized reverse voltage pulse, and if you think that local RF will
effect the relays just add a 1000 pf disc capacitor across the doide, it
really shouldn't be bothered by local RF energy if you have a reasonable
SWR.

Jay

3915. Re: Homebrew Pagers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Dj Merrill <deej@vsl.ist.ucf.edu>
Message-ID: <31C6AD9B.1CFB@vsl.ist.ucf.edu>
Source record: 104543

Tyler Gunn wrote:
>
> Hello everyone, I'm interested in making a homebrew pager that I would
> operate on an amateur band. I'm wondering if anyone out there has ever
> attempted this? That or is it possible to modify a standard pager to
> receive it's signal in an amateur band and then to build a transmitter for
> my home? If anyone has any information, please email me at
> tgunn@mbnet.mb.ca...

Kantronics is doing something similar. Their new
firmware for the KPC-9612 tnc supports the paging standard
used by most numerical and text pagers. They are even selling
pagers that are tuned for ham freqs...
Check out "http://www.kantronics.com"

-Dj

--

Dj Merrill Institute for Simulation and
Training / UCF
Associate in Simulation 3280 Progress Drive, Orlando, FL
32826
deej@vsl.ist.ucf.edu - N1JOV (407) 658-5513 / Fax: (407) 658-5059

"BSD: The way Unix should be"

3916. Re: Would a MMIC make a good osc. @ VHF/UHF frequencies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: tmahanna@ix.netcom.com
Message-ID: <4q6hmq$egl@sjx-ixn5.ix.netcom.com>
Source record: 104544

In <4q6b70$2kf@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom)
writes:

>MMIC's have a low input and output impedance, complicating the
external
>circuit. They load the external circuit heavily.
>
>MMIC's require external current limiting, and that aggravates
temperature
>related drift. You just can't feed them from a voltage regulated
supply,
>there has to be current limiting after the voltage regulator. When
MMIC
>temperature changes, the thing drifts.
>
>MMIC's have a lot of internal negative feedback, and don't saturate or
AGC
>well. That makes a MMIC oscillator a bit fussy about feedback level,
and
>prone to parasitics and a bit dirty. The way around that is to add an
>external limiter or AGC in the feedback loop.

That's a lot to consider. Better bet to stick with the FETs. I was
hoping to use them as power oscillators for a 100mW QRP project. Do you
think that they would be superior in this particular application?

-Tom

3917. Re: Variable-length ladderline tuner: implementation issues

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: psoper@encore.com
Message-ID: <Dt7H51.LHF@encore.com>
Source record: 104545
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

>Cecil Moore <kg7bk@primenet.com> writes:

>>Pete Soper <psoper@encore.com> wrote:
>>: I got no responses to my recent posting about how to design the
>>: R/C circuit for damping relay coils as they are de-energized.

>Hi Pete, I didn't see your posting. What was the subject? Are you
>sure it got posted? What I have done is drive the relay with

The subject was something like "making relays quiet" and I didn't wait long as I'm running short of time. I'm not sure of anything to do with my Usenet feed. When I get other's postings, in random time order or any order at all I count myself lucky. You and many others can treat Usenet as a conversational device with a few hours or day delay our thereabouts, while for me it's like the Liberian Postal Service.

>double the rated voltage with a resistor in series equal to the
>coil resistance and a 0.1 pf cap across the coil.

Well that's another combination I wasn't aware of. I'll assume you meant .1uf. So the shunt resistor provides snubbing action? I assume the capacitor looks like a short to RF?

>>: My concern is that each time I flip off a relay as I switch the
>>: tuner a noise spike will be induced into the nearby ladder line,

>I wouldn't recommend switching the relays with RF on them. What I
>do is switch the relays without RF on them, then apply RF and write

I didn't mean to imply I'd be switching the relays with transmit power applied. I'll never do that intentionally.

Say I'm listening to my receiver, hooked via the tuner to an antenna. It's time to change bands or whatever, so I deenergize one of the relays of the tuner to switch the length of ladder line present. As the relay coil's field collapses a back EMF potential of a few hundred volts appears and gets coupled into the ladder line path to my receiver via the coil's ground return line and from there ends up in my eardrums. This is my first concern. The second is that I want to replace the mechanical switches controlling the relays with logic operated devices in the future and I'm sure they won't want to see high potentials coming at them. The last concern was RF flowing through a rectifier (either part of a snubber or an indicator LED). If you say all or part of this is a non-issue, fine, that's exactly what I'm looking for.

>I try not to anticipate problems but solve them as they arrise.
>Quite often an anticipated problem never occurs.

Granted, but trying to figure out what could happen and what I would do about it is part of my personality and the way I learn about things in depth. Different strokes, heh?

>I kept the covers, brought the common wires out holes in the covers
>and fastened them to the ladder-line outside the relay cover. I found
>that trying to solder the ladder-line to the common moving arms
>caused the relay electro-mechanical sensitivity to change for the worse.
>I used a glue gun to seal the holes.

This is a key point and has saved me horrible grief. This would have dawned on me (like a load of bricks) as I was finishing the first solder joint (duh). Limber but well-dressed wires of the right gauge and spacing "coming up". I'll put some more lucite supports in place and run the "relay interconnect" ladder line along one side with breaks adjacent to each relay and tie the limber wires across to each side of each break. This should actually be a great deal cleaner than what I was going to do. And it seems that this kind of interconnect would be better for the loops too, as running the ladder line loops right to the relay's end terminals is looking to be very messy. (In my posting I incorrectly described the loops being on the moving arms, which of course they are not).

So if I had it to do over again, I'd cut the moving arm wires at the relay connector and thread them through small holes in the end of the relay's cover, sealing them with a little blob of coax-seal (not glue, which is irreversible).

It looks like I should have started with a U-shaped channel of three rectangular lucite strips cemented together. The middle would hold the relays while the others would run on either side of the row, holding the ladder line connections. Power and ground could come in from below the relays to be at right angles to the ladder line and "limber interconnect" wire pairs. Then the whole thing would be mounted on one side so the short loops could hang down.

By direct mail Jay (jay123a@ptw.com) suggested a rectifier diode in parallel with a 1000pf cap across the relay coils, saying this should prevent RF from interacting with the relay. And Brian Olliver () suggested .1uf in series with 33 ohms across the coil as a "snubber".

Thanks to all.

Regards,
Pete
KS4XG

3918. Re: Would a MMIC make a good osc. @ VHF/UHF frequencies?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4q6qec$8cf@hpscit.sc.hp.com>
Source record: 104546

In article <4q6hmq$egl@sjx-ixn5.ix.netcom.com>,
Thomas R Mahanna <tmahanna@ix.netcom.com> wrote:
>In <4q6b70$2kf@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom)
>writes:
>
>>MMIC's have a low input and output impedance, complicating the
>external
>>circuit. They load the external circuit heavily.

They load the external circuit with ~50 ohms. You design
the external circuit matching to be compatible with this.

>>
>>MMIC's require external current limiting, and that aggravates
>temperature
>>related drift. You just can't feed them from a voltage regulated
>supply,
>>there has to be current limiting after the voltage regulator. When
>MMIC
>>temperature changes, the thing drifts.

In my experience, MMIC's have less change in the phase of S21 than
transistors. This results in less temperature drift.

>>
>>MMIC's have a lot of internal negative feedback, and don't saturate or
>AGC
>>well. That makes a MMIC oscillator a bit fussy about feedback level,
>and
>>prone to parasitics and a bit dirty. The way around that is to add an
>>external limiter or AGC in the feedback loop.
>
Right.

>That's a lot to consider. Better bet to stick with the FETs. I was
>hoping to use them as power oscillators for a 100mW QRP project. Do you
>think that they would be superior in this particular application?
>
>-Tom

FET's make sense in certain oscillator configurations, but the best
bipolar transistor and MMIC oscillators have lower phase noise and
higher temperature stability than the best FET oscillators. It is
interesting to note that one almost never sees papers at the Frequency
Control Symposium about FET oscillators. Of course, we could all
be wrong.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

3919. Re: Homebrew QSL Cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: patrick_tatro@stortek.com
Message-ID: <Dt7KBG.868@stortek.com>
Source record: 104547

In article <XEG7rDAk3ZxxEwGY@stevef.demon.co.uk>,
Stephen John Farthing
<stephen@stevef.demon.co.uk> wrote:
>Path:
stortek!csn!nntp-xfer-2.csn.net!news.advtech.uswes
t.com!engineer.mrg.uswest.com!news.uoregon.edu!vix
en.cso.uiuc.edu!newsfeed.internetmci.com!hunter.pr
emier.net!netnews.worldnet.att.net!ix.netcom.com!n
etcom.net.uk!dispatch.news.demon.net!demon!stevef.
demon.co.uk!stephen
>From: Stephen John Farthing
<stephen@stevef.demon.co.uk>
>If this seems off topic please excuse me.
>I intend to make my own QSL Card design and
either get it
>photographically duplicated or printed. I would
like the front to be
>interesting and unusual. Any thoughts on what I
should put on it or what
>I should avoid?
>On the back I'll put:-
>
>To Radio :-
>Date:-
>UTC:-
>Freq:-
>RST:-
>Mode:-
>Pwr:-
>RX:-
>TX:-
>Ant:-
>My Address:-
>Comments:-
>
>Is there anything else that would be useful, for
example Map Reference?
>
>
>I intend to make a 4x copy on a paste board and
reduce it to 140x90mm
>using a photocopier.
>
Stephen

Great topic - not talked about much. Ive had QSL cards that could not be written on because of the finish. Ink would just rub off. The same card could not be posted as a post card because the machinery would destroy the picture.

My next card design will be computer friendly. Ill print a nice picture on one side and used the other for mailing address and contact information. Ill put my call on both sides.

I'm not sure if 140x90mm is standard QSL card size but many homebrew cards are not and that can be a problem when sending for an award or keeping in a file. Ive had to cut some cards down to keep in my file.
Good Luck and 73's
Patrick N0WCG

3920. WWW Pages

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: asperges@innotts.co.uk
Message-ID: <31c6ce58.1196457@news.innotts.co.uk>
Source record: 104548

~~~~~~
The Ham Radio Page - nearly 12,000 visitors to date

http://www.innotts.co.uk/~asperges/

Already reviewed by several magazines and review of the SWL
pages will appear in the July Edition of RadCom.

~~~~~~~~~~~~~~~~~~~~~~~~~~

If you haven't yet seen it, come and see it now:
If you have, see the latest updates:

* Extensive variety of subjects;
* SWL Pages (including scanners);
* Questions and Answers;
* Links to all the major ham pages;
* The new UK Radio Society;
* Friends on the Net

Plus: Non-ham subjects including historic Wollaton Park,
Burns and his Works in his bicentenary year
St George and the Dragon.

Thanks to all friend and visitors who have supported the pages
since they were launched late 1995 to date.

73 de Jeremy G4NJH
June 96
~~~~~~
~~~~~~

3921. Re: 7 Pin Miniature Tube socket- matching plugDoes any one know of a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: pierretr@collegebdeb.qc.ca
Message-ID: <4q73ch$ich@wagner.spc.videotron.ca>
Source record: 104549

In <4pv478$m3q@masters0.Internex.NET>, juan@cinabrio.com (Juan A. M&#65533;nico) writes:
>Does any one know of a source for a plug or header that will
>plug into a standard seven pin miniature tube socket?
>I need one desperately and none of the places around here
>(San Jose) have them. Any help would be appreciated.
>Juan
>n6mxa
>
They were easier to find when tubes were in use... You could do a search on
"socket extenders" for tube testers... Or else get small nails (cut the heads off) into
a socket, stick it into a piece of foam core, and use this as a form for epoxy.
I still have a plug I made for a Grundig Satellit I wanted to make an adaptor for...

Pierre VE2BRD

3922. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <31C6FBDC.5444@lanl.gov>
Source record: 104550

<snip>
> Bill, I have converted literally DOZENS of CB rigs to 10m over the past
> 19 years I've been a ham. Never once have I found a need to modify the
> RF section (or any other section) to make it perform 100 percent on 10m.
> You'd be surprised at how broad-banded these things are, and how far you
> can tune 'em with very little effort. Most can be tuned for anything
> from 22 to 30+ MHz. I've helped friends convert CBs to 12 meters (that's
It takes a fair amount of work removing capacitors and turns on some of
the coils in the RF tx & receive sections but I've successfully
converted a SSB CB to 50 MHZ (as in 6 meters), and even worked another
ham several hundred miles away also running a converted CB!
Same transistors all around, only tuning changes done.

> 24.9 MHz for those who didn't know) and only a re-tune was required to
> make 'em work (plus the usual crystal changes, of course). Also, what-
> ever the power output was on 11m, it will be on 10m. A typical SSB CB
> rig will put out between 10 and 15 Watts PEP, and it will do the same
> after 10m conversion. If your Cobra 148 is only putting out 5 Watts on
> SSB, it either desparately needs alignment, or something's wrong with
> the transmitter section, or perhaps both.

Perhaps he was using a typical power meter when reading the voice power
level and not realizing that, even with a sustained whistle into the
mike, the true PEP power level is usually close to twice the reading of,
say, my Bird 43 power meter reading.
<snip>
--
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
http://nis-www.lanl.gov/~jdport/

3923. Re: 6 METER AM / questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Jim Devenport <jdevenport@lanl.gov>
Message-ID: <31C6FDA7.7493@lanl.gov>
Source record: 104551

Joel Govostes wrote:
>
> Where is 6m am activity usually found? 50.2? 50.4 was a popular AM calling / chewing frequency years ago, depends on
the locality. Very little AM is available any more of course.

> How about 2m am, if it's ever used anymore? What freq.'s?2 meter AM was/is even scarcer than 6 AM, if that is conceivable.

I'm a former 6M AM fanatick but even 15 or so years ago AM activity had
dwindled to such scarcity I was forced to build a transverter for SSB
for my HF transceiver so I could talk to all the "quackers" I could hear
in my AM speaker but could not raise using only AM.
> Regarding antennas, would a ground plane or horizontally polarized antenna
> be best for 6m band openings when using this mode? From what I
> understand, antennas for weak-signal ssb/CW are horizontally polarized;
I ran both vertical and horizontal in my 6 Meter AM days; could never
tell much difference when working DX. When working local stations the
polarization will make a BIG difference. Usually 6 meter operators only
get on when the band is open or when a local net is on so it might be
hard to find out what the favorite local polarization scheme is
depending on where you are.
|---|
|Jim Devenport WB5AOX |
|All Standard Disclaimers Disclaimed |
|My views rarely (if ever) reflect those of my employers|
http://nis-www.lanl.gov/~jdport/

3924. Re: Ham-Homebrew Digest V96 #267

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: hts@thor.NET
Message-ID: <199606181312.IAA17859@odin.thor.net>
Source record: 104552

Please have my E-mail address remove from your brocasting data base. this e-mail address go to new user. thanks

3925. Re: Novice QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: discipio@crl.com
Message-ID: <4q75pn$139@crl.crl.com>
Source record: 104553

As best as I can tell, many of the QRP kits *will* allow you to run
on novice segments. I just built an Explorer II from Oak Hills Research
and it could be made to tune any 70 kHz segment within the 40m CW band.
It just depends where you center the VFO.

Check out the June issue of QST. They review 5 QRP kits. It's a great
article! I just saw some of the kits sold by Wilderness Radio (415)
494-3806 such as the Sierra QRP and the NorCal 40A and was quite
impressed. These are really sharp looking radios. The boards are works
of art. They'll do the novice segments too!

Regards,

Bill Di Scipio

Dennie Mildfeldt (mildfedc@quicklink.net) wrote:
: I wonder why there is a lack of QRP rigs available for novice freqs.
: All homebrew/kit qrp rigs are set up with crystals in the general
: class freqs.
: Wouldn't it make sense to offer then on 10M or in the novice portion
: of 40M to get new hams to learn code? or am I just wishing.
: I am a technician class ham with my 5wpm code endorcement, and am
: tired of all the stuff on 2M, of packet, of SSB, of all the other
: "hot" stuff. Sold all my HF gear...sold all my packet gear....sold
: all my 2M gear...and bought me a qrp rig with novice crystal in it for
: 40M. Gonna start at the bottom...learn my code like I should have
: years ago...and enjoy pounding brass for a change.
: Seems like the faster we run....the quicker we get back to where we
: were. Go figure.
: Let me know what you think.
: 73....de Dennie (KC4QNW)
: Aho Mitakuye Oyasin (All My Relations)

--

"Plus Jim [Kennemur] does not call all blacks he disagrees with house
niggers Jim [Kennemur] calls house niggers that he disagrees with house
niggers. Big difference Dippy." -- Shawn Smith <sshawns@ccsi.com>

3926. Re: 7 Pin Miniature Tube socket- matching plugDoes any one know of a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: stevem@best.com
Message-ID: <4q77k6$1qo@shellx.best.com>
Source record: 104554

In article <4q73ch$ich@wagner.spc.videotron.ca>,
Pierre Tremblay <pierretr@collegebdeb.qc.ca> wrote:
>In <4pv478$m3q@masters0.Internex.NET>, juan@cinabrio.com (Juan A. M&#65533;nico) writes:
>>Does any one know of a source for a plug or header that will
>>plug into a standard seven pin miniature tube socket?
>>I need one desperately and none of the places around here
>>(San Jose) have them. Any help would be appreciated.
>>Juan
>>n6mxa
>>
>They were easier to find when tubes were in use... You could do a search on
>"socket extenders" for tube testers... Or else get small nails (cut the heads off) into
>a socket, stick it into a piece of foam core, and use this as a form for epoxy.
>I still have a plug I made for a Grundig Satellit I wanted to make an adaptor for...
>
>Pierre VE2BRD

You might try Antique Elecronics Supply. I believe they are in Tempe AZ.
A web search on vintage radio would probably find them.

Steve WF6R

3927. Re: 7 Pin Miniature Tube socket- matching plugDoes any one know of a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: frank.dinger@zetnet.co.uk
Message-ID: <4q7cri$ku2@roch.zetnet.co.uk>
Source record: 104555

In message <4pv478$m3q@masters0.Internex.NET>
juan@cinabrio.com (Juan A. M nico) writes:

> Does any one know of a source for a plug or header that will
> plug into a standard seven pin miniature tube socket?
> I need one desperately and none of the places around here
> (San Jose) have them. Any help would be appreciated.
> Juan
> n6mxa
> ==========response GM0CSZ / KN6WH
Juan , 1) Take an old seven pin miniature tube

2) Wrap Cellotape around lower 1/2 inch part near pins

3) Safety first : put thin gloves on and safety goggles(=eye
protection)

4) Gently scratch glass (with glass cut scrathcer) all around
at cellotape edge

5) Gently tap top of tube ----> it will come off

6) Carefully remove 'guts' from tube but leave inside pin stumps

7) Solder wires/cable to pin stumps and check continuity
between wire/cable end and relevant pins, if necessary use
sleeving over solder joints and pin stumps

8) Fill the now glass envelope plug with 2 components epoxy
adhesive

9) After adhesive has hardended , remove cellotape and slide
heat shrink sleeve over plug .

10) Finally very gently heat sleeve and presto ,your wire
bundle or cable with its molded plug is ready for use.

Success !

73 ,Frank,Inver by Tain , Ross-shire IV20 1RX - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

3928. Re: 6 METER AM / questions

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <31C69F6B.733@staffnet.com>
Source record: 104556

Chris Boone wrote:
>
> jwg6@cornell.edu (Joel Govostes) wrote:
> >Where is 6m am activity usually found? 50.2? Calling freq.?
> >How about 2m am, if it's ever used anymore? What freq.'s?
> >
> >Regarding antennas, would a ground plane or horizontally polarized antenna
> >be best for 6m band openings when using this mode? From what I
> >understand, antennas for weak-signal ssb/CW are horizontally polarized;
> >not sure what would be appropriate for am/dx. Thank you, 73
> >(pse reply to jwg6@cornell.edu) N1AEP
>
> 50.4 is the AM calling/working freq on 6mtrs....still some activity
> there
> when the band is open....
>
> Not sure about 2mtrs...havent heard of any 2mtr AM in years...
>
> As for antennas, horizontal is used on AM style modes (AM/SSB, etc)
> while
> FM uses vertical...thats is mostly true on all bands from 10mtrs
> and
> up...but if the band is open, a vettical on 6AM will work just
> fine...
> If you want to use a horiz antenna, a squalo (square halo) or
> turnstile
> or similar would be best (omni directional)...
>
> 73
> Chris
> WB5ITT

I have not been happy with a vertical on 6 Meter SSB, even during band openings. Sometimes it makes no difference but often I can receive better with a 40 meter dipole at 30 feet than the ringo ranger at 55 feet. Go for the squalo or a small beam.

3929. Re: 7 Pin Miniature Tube socket- matching plugDoes any one know of a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <31C78693.353A@wenzel.com>
Source record: 104557

I think we use those on some of our oscillators! I know I have 9-pin types and I feel fairly sure about 7-pins. We get them from Electrical Industries. If you only need a couple let me know!

Charles

3930. Overheating problem with RCI2950

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Randy Reames <rreames@nyx.cs.du.edu>
Message-ID: <01bb5d9c.1d966ee0$29e983cc@shire.aztek.com>
Source record: 104558

Has anyone with an RCI2950 seen instability and distortion on both receive and transmit
when the radio gets hot? i.e. - inside a parked car on a hot day? Mine starts to sound like
the signals are being filtered through a waterfall - a 'burble' sound. The radio has been
back for a complete alignment (which helped performance but not the temperature problem).

Also - does anyone know of any mods (not the typical CB freq mods) that will improve
FM reception, ANL and noise blanker, etc??? - Also, a pictorial with pots and coils marked
would be a real help.

Randy Reames WA0TKO
rreames@nyx.cs.du.edu

3931. Re: Need help - HW101 problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Roger Basford <Basford@g3vkm.demon.co.uk>
Message-ID: <eg+5DPAQ1vxxEwkw@g3vkm.demon.co.uk>
Source record: 104559

In article <jwg6-1806960643510001@cu-dialup-0809.cit.cornell.edu>, Joel Govostes <jwg6@cornell.edu> writes
>I just inherited a Heath HW101 which I've cleaned up; it receives well but
>I'm having considerable trouble with the transmitter. Unfortunately I
>have no manual. Can anyone lend some advice toward troubleshooting this
>rig?
>
<Fault descriptions snipped>

Joel,

It's many moons since I fault-found one of these but it sounds like a problem a local amateur around here experienced. We traced this to low output from (IIRC) the mic amp (which I think the CW tone oscillator also feeds?). The tube was a double trode (12AU7 or 12AT7) and the plate resistors had gone high on both triodes. It's a long shot but after all these years you might find that the resistors are worth checking, same goes for the decoupling capacitors. BTW, I think the pot to adjust the sidetone was underneath, accessible thru' a set of holes.

73, G3VKM, Roger.

////////////////////////////////////
* e-mail: Basford@g3vkm.demon.co.uk *
* Roger Basford, Haddiscoe, Norfolk U.K.*
////////////////////////////////////

3932. AM Radio Chip (LM1863)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Lanier.r.a@nort.bwi.wec.com
Message-ID: <4q6bql$iei@cc2000.kyoto-su.ac.jp>
Source record: 104560

I am trying to find a source for the National Semiconductor LM1863 AM (Radio System for Electronically Tuned Radios). I would like to use this part for a current project, but I cannot find one. The part is on lifetime but, which means the part will be obsolete soon. National does not have any in stock and nither do the major distributors (Hamilton-Hallmark, Future, Zeus). Can anyone recommend another possible source or do you have a few extra parts you want to sell?

Any help would be much appreciated.

Tony, KE4ATO

3933. Re: Need: Cheap source of SMT Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Allen Wallace <allen@dtint.dtint.com>
Message-ID: <4q6d8s$lj@itchy.itsnet.com>
Source record: 104561

In article <4q1m9q$rpt@tkhut.sojourn.com> KF8HN, cbenjam@dinfsvs.com writes:
>Does anyone know of a mail-order source of Cheap surface-mount
>components (not the regular $0.30 to $2.00 for a single ceramic
>SMT capacitor parts source)?

Computer disk drives has lots of reusable surface mount parts. Go to a computer repair store, and beg or buy a defective hard disk drive. Don't pay more than $5, as these things are not repairable! All they can do is throw them away. Inspect the pcb to make sure that it actually has surface mount components as some old drives pre-date surface mount. At my place of employment, where everyone has a computer, a bad disk drive comes up every few months or so.

I used to use a soldering iron to remove the sm (surface mount) capacitors, but not any more. Just use a heat gun for about 5 seconds, and then slap the board down on the table, and zillions of sm parts fly off the board. I belive that all the sm parts can survive this kind of heat and more.

3934. Re: Need: Cheap source of SMT Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Allen Wallace <allen@dtint.dtint.com>
Message-ID: <4q6eoc$qc@itchy.itsnet.com>
Source record: 104562

In article <4q1m9q$rpt@tkhut.sojourn.com> KF8HN, cbenjam@dinfsvs.com writes:
>Does anyone know of a mail-order source of Cheap surface-mount
>components (not the regular $0.30 to $2.00 for a single ceramic
>SMT capacitor parts source)?

Computer disk drives has lots of reusable surface mount parts. Go to a computer repair store, and beg or buy a defective hard disk drive. Don't pay more than $5, as these things are not repairable! All they can do is throw them away. Inspect the pcb to make sure that it actually has surface mount components as some old drives pre-date surface mount. At my place of employment, where everyone has a computer, a bad disk drive comes up every few months or so.

I used to use a soldering iron to remove the sm (surface mount) capacitors, but not any more. Just use a heat gun for about 5 seconds, and then slap the board down on the table, and zillions of sm parts fly off the board. I belive that all the sm parts can survive this kind of heat and more.

3935. Re: Need: Cheap source of SMT Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: Allen Wallace <allen@dtint.dtint.com>
Message-ID: <4q6elo$qb@itchy.itsnet.com>
Source record: 104563

In article <4q1m9q$rpt@tkhut.sojourn.com> KF8HN, cbenjam@dinfsvs.com writes:
>Does anyone know of a mail-order source of Cheap surface-mount
>components (not the regular $0.30 to $2.00 for a single ceramic
>SMT capacitor parts source)?

Computer disk drives has lots of reusable surface mount parts. Go to a computer repair store, and beg or buy a defective hard disk drive. Don't pay more than $5, as these things are not repairable! All they can do is throw them away. Inspect the pcb to make sure that it actually has surface mount components as some old drives pre-date surface mount. At my place of employment, where everyone has a computer, a bad disk drive comes up every few months or so.

I used to use a soldering iron to remove the sm (surface mount) capacitors, but not any more. Just use a heat gun for about 5 seconds, and then slap the board down on the table, and zillions of sm parts fly off the board. I belive that all the sm parts can survive this kind of heat and more.

3936. Re: HF Emergency - An Ex

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: jim.hammock@tclbbs.com
Message-ID: <1179587193-960617191700@tclbbs.com>
Source record: 104564

Hello Bill,

B ->I think you sent this to the wrong person. I'm glad to get this, though,
>as I am involved in RACES/ARES and it did explain some things I wasn't
>aware of. Such as the congestation on the telephone lines being more of
>a problem than power outage.

Sorry, don't know how that happened with a reply. I hope it wasn't
private so the intended could read the message. Especially since some
idiot erased it from his hard drive.

B ->My actual reply to the person who posted the stuff you commented about was
>simply the line below:

B ->"Check out this Spring in Northern Idaho."

B ->Up there they thought they'd be OK, everything was on cellular phones.
>Guess what? The cell phone transmitters got knocked out when the power
>went. :-) And most of the phone lines were down as well. So they were
>glad to have hams. And it did cover an area the size he said he hadn't
>seen covered.

In a hurricane or severe windstorm those marvelous lowest bidder
cell towners will come tumbling down too. Try using a 300mW to reach a
cell site 2 miles away on the ground!

B ->I'm deaf, so some areas of knowledge didn't interest me much until recently

>Now about your specifics, if you don't mind explaining them. I've never
>had problems calling my mom on Mother's Day. :-)

How nice not to have to talk to your mother-in-law every year!!!
<Grin> For those of us with that stone around our neck, hours can be
spent trying to get through. Mother's Day is the heaviest service day
the phone companies experience.

B ->Don't the phones need electrical power to work? I know that when power in
>my house goes out, the phone still works, but not if it works both ways:
>I know we can call the power company and tell them, but can people also
>call in to us? I'd assume not, the ringer wouldn't work?

The phones (except cordless) will still work, the dialing and
ringing power is provided from the plant (central exchange) and they
have backup batteries (truck batteries with a pituitary problem) and
generators to provide power when commercial power fails.

Cont next message

---

* UniQWK #2145* Math problems? Call 1-800-10*(24+13)-(64-16)/2^14E2

3937. Re: HF Emergency - An Ex

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-18 00:00:00 UTC
From: jim.hammock@tclbbs.com
Message-ID: <1038874032-960617191700@tclbbs.com>
Source record: 104565

B ->Also, if the power is out like it was up there this Spring, won't that also
>shut down the phone central exchange for the town?

No. The exchange should have adequate batteries for hours of backup,
even if the generators fail.

B ->Assuming it had a generator, wouldn't that still cause problems to
>phone service, beyond the media and panicked folks trying to check
>on friends and relatives,

Not the power outage beyond scared people loading up the system. See
my explaination below.

>...let alone the politicos using the interruption setup you
>described (should'veknown the gov't would have something like that
>in place! ;-) to check on their local fund-raising drive during the
>emergency ("Did you get them checks cashed? No? Get it done now!")
>(Yeah, I'm pretty pissed off at my local politicos right now. Sorry.)

No, that's the problem, the local authorities don't have a priority
or flash overide system. That's why alternate means of communication are
needed. If they could override non-urgent calls in a disater then things
would get done. (Including making a lot of disconnected callers mad.)
Some of the federal (closed) systems and military (closed) systems have
that capability. (By closed I mean not accessable to the public.)

B ->I hope you won't mind answering these as I'm really curious about this gap
>in my communications knowledge.

Not at all, just in case the person I was trying to answer didn't
see the last message, I'll be a little redundant. The problem is not
power to the communications systems, it's overload of those systems.
When cable installations are planned the company looks at current and
reasonable projected needs (ie is a mall or office building planned
during the expected life of the cable. The local automated exchanges
(those cute fiberglass telephone company outhouses you see in suburban
and rural areas) are planned on the same basis. In a rural town of 1000
customers, they may project that 2% of the customers would be a normal
top load for people calling in or out of that exchange at the same time.
(I'm sure they use formulas that take into account businesses etc.) That
means there would be a need for 20 lines out of the exchange during an
expected heavy load. They would add a fudge factor for bad lines, etc.
of maybe 10% of that for a total of 22 lines. That works fine on most
days (except Mothers' Day, Christmas, and Easter when those of us who
try to call get a recording saying, "due to a heavy volume of calls your
call did not go through, please try again later." Of course everybody

else tries later too so the problem just gets worse.
Let a disaster hit, and everyone of those 1000 customers will be calling out, or have people calling in, all at once. The systme takes whoever is dialing at the time a line opens up.
Let's expand that to a city the size of LA. As the total number of subscribers goes up you can expect the ratio of outside line usage to decrease. (A larger number of calls will be local though, and that also overloads the system.) It doesn't take a rocket scientist to figure out that with a few million trying to call out, and several million trying to call in that things are going to grind to a halt.
That's why alternative means of communication are needed.

Jim KE4EDT/AA

---
* UniQWK #2145* Math problems? Call 1-800-10*(24+13)-(64-16)/2^14E2

3938. do not read test

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: nq9250700-Schuman <ixstar!platypus@lucent.com>
Message-ID: <4q9ar7$70g@ssbunews.ih.att.com>
Source record: 104479

dddd

3939. Want HC705 develop. brd.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.6.19.20.22.8.2443217854.2921974@hcol.humberc.on.ca>
Source record: 104480

Looking for a Motorola 68HC705K developers package.
Mot. had a special on them a few years ago...wondering if anyone
who may of picked one up and is not using it might be willing to
sell it !?

Thanks...

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

3940. DDS devices for ham use

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: "Timothy Ressel", Non, HP, Unkn <tressel@metro.sr.hp.com>
Message-ID: <4qa37r$les@canyon.sr.hp.com>
Source record: 104481

There is growing interest in using Direct Digital Synthesis (DDS) for various ham applications, mostly VFO generation. Recent articles, including the one in QEX, expound on the virtues of DDS to the point of mild hyperbole. Well, I hate to rain on anyone's parade, but you hams may be thinking 'no free lunch' when reading about DDS, and you'd be correct.

First, DDS is a QUANTIZED synthesis, which means samples are spitting out of a DAC at some rate. In the case of the Analog Devices AD7008, samples come out at a 50MHz rate. This means a strong (-10 dBc) 50MHZ component at the output. Then there is the mirroring problem, which means for an output of n MHz, you also get an output at 50-n MHz. So a 24.5MHZ signal will have a signal at 25.5MHz. It gets worse. Because DDSs use a phase accumulator method, the number of discreet steps in the sine wave varies with frequency, but the sample rate (50 MHZ) does not. These to sample rates interact to create spurs. Lots of spurs. The amplitude of these spurs increase with the frequency of the DDS output. At 1MHz the spurs are -60dBc to -80dBc, while above 10MHz the spurs are -30dBc.

So this is clearly not paradise. However, if you stay below about 5MHZ and use a VCO in a phase-locked-loop arrangement, you can get a clean output at a higher frequency. My HF rig uses Mini-Circuits VCOs ($16.00!) to get a 45-75MHz 1st LO output for high-side injection to get a 45MHz IF.

--Timster

tressel@sr.hp.com

3941. Re: Homebrew QSL Cards

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.835170849@bauv111>
Source record: 104482

kg5u@hal-pc.org (Dale L. Martin) writes:

>Stephen John Farthing <stephen@stevef.demon.co.uk> wrote:

>>On the back I'll put:-

>Stephen, don't put the info on the back. It may seem neat and simple,
>but when a QSL manager is going through hundreds or thousands of
>QSL's, the QSL's with the info on the front is always easier to
>process. If you are going to put the information on the back, please
>be sure and include your callsign, so the person processing can read
>all the information on one side.

>>To Radio :-
>>Date:-
>>UTC:-
>>Freq:-
>>Mode:-
>>RS(T):-
>Note that I have reversed the Mode and RS(T)....that's a more normal
>progression.

>Separate the info above from the info below to reduce congestion

>>Pwr:-
>>RX:-
>>TX:-
>>Ant:-
>>My Address:-
>>Comments:-

>>Is there anything else that would be useful, for example Map Reference?
>(if you were in the USA, I would suggest County on your card)
>Grid Square Number
>10-10 Number

I have used some QSLs in my ham life, now I'm using very simple cards
having only the minimal information necessary. It is the one you
cited above. There is no information about power, RX, TX, antenna, etc...
on my current card. If I have to add it in a special case, I can because
there is enough blank space left for comments.

If your QSL is good for some diplomes and when the callsign is not
sufficient to show the possible assignment, then you should include
this information, e.g. the county, the DOK, the QTH-locator, etc...

Use only good readeable fonts, avoid old fashioned ones. They are not common to some peoples. Remember, the latin characters are foreign characters to many peoples.

Be clear with the date. Note that there are some different ways to write the date in numeric form around the world. Be clear. Avoid "5/7/96", use "May 7th, 1996" or " 7th May 1996" instead.

--

Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer and not necessarily those of her employer.

3942. Re: Toroid WBT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: Matt Bohn <bohn@unm.edu>
Message-ID: <31C8B28F.4920@unm.edu>
Source record: 104483

Mike Davis wrote:
>
> Hi,
>
> Just wondering if anyone has a canned wide band toroidal transformer
> recipe for around 30 MHz. I have been reading past posts on the search
> engines and based on those it looks like a 61 material at around an inch
> or a 67 material at around 2 inch diameter and turns of around 12 and 20
> respectively should do the trick. Ratio is 9:1. I have played with the
> multiturn type windings and think I have that down.
>
> Thanks for any help or pointers,
>
> Mike

If the power is less than a watt, you can buy the transformer from Mini-Circuits for about 4$. And it is definitely going to work. I don't have there address or phone number. Email me if you are interested.

Matt Bohn
http://www.unm.edu/~bohn/fs.html
Graduate Student
Optical Sciences Program
University of New Mexico
800 Yale SE
Albuquerque, NM
87131

3943. Re: Frequency Standard

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-190696114352@160.205.101.24>
Source record: 104484

In article <4q2ee3$62p@alpha.pcix.com>, daveaa1a@pcix.com wrote:

> Some time ago I received many correspondence speaking of Frequency accuracy
> anf how to get it best. Since then I have stripped 3.58 color burst off
> network, Loran 'C' from Nantucket and WWV. For CCW or Spread spectrum
> purposes, what type do you prefer/use/reccomend.

> I'm thinking that Network Color burst say from ABC or any network available
> to both parties involved via cable or terrestrial is the way to go.. As long
> as both parties are using same reference, does it matter if it's not 10-14th??

> Planning to phase lock my 10ghz brick and LowFer Beacon.. What should we
> use??

I'd vote for LORAN as a short term solution & GPS as a long term solution.

IMO NTSC colorburst signals could be used _provided_ that both sites used a common broadcast source and transmission path...if the two sites used different paths (cable vs. VHF air link, two independent cable providers, etc.) you may have some dispersions in frequency stability which may or may not be a problem. The use of two different broadcast stations, even if they are affilliates of the same network is a no-no; most broadcast stations resync all source material (including live network feeds) to their own master oscillator thus breaking the traceability back to the network.

WWV is perhaps not quite a reliable enough source for a good frequency standard due to propagation (NIST advertises an 'as received' frequency stability of 1E-7 even though the 'as transmitted' stability is 1E-11), and you ought to be getting several orders of magnitude better results from the LORAN chains.

TGB

\\ The opinions expressed herein are my own. //

3944. Re: Where to buy NE602?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: bob.berlyn@chowda.com
Message-ID: <960619180007141@chowda.com>
Source record: 104485

```
-> From: "Willis S. Whatley" <spud@fortnet.org>
-> Subject: Re: Where to buy NE602?
->
-> Available at H B Electronics

HB.Electronics@Businesson.com

Good prices.
```

3945. Is their a way to do packet on a pocket organizr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: muon@indirect.com
Message-ID: <31C8BC8B.267F@indirect.com>
Source record: 104486

I was wondering if their is away to do packet on a wizard organizer.
It would be nice to not have to carry around a big laptop computer on
camping trips. If their is away by means of software for a built in TNC
into the organizer, then that would be excellent.

please e-mail me at muon@indirect.com

JON (KC70JD)
PHOENIX, AZ

3946. External audio filters any good ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: Steve C <Steve@mjrigby.demon.co.uk>
Message-ID: <bBWIaDAyWFyxEw$h@mjrigby.demon.co.uk>
Source record: 104487

Hi Peeps,

I'm wondering if I need one of these external type audio filter gizmos I see advertised...

I only use VHF SSB for "real" contacts (On packet rest of time) and wonder if these boxes will make life easier.

What actually can you get one do do ?

Can you filter out the hash, so you can have the vol up for those pesky weak signals without doing the few brain cells left in with all that noise ???

Can they even select one weak signal's voice from a pile of others ??

And can I make on myself not too expensively ???

Your comments/experiences gratefully received.

73 de Steve G1YBB.

--
Steve C

3947. Novice QRP

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199606191803.OAA23096@service1.cc.uky.edu>
Source record: 104488

Check with 624 Kits for novice qrp stuff.

624 Kits
171 Springlake Drive
Spartanburg, SC 29302
(803) 573-6677

They have some inexpensive kits and Novice QRP crystals on 3700 and 7110 KHz

73
Bill ko4ww

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

3948. Re: homebrew tnc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: gavin@cypher.co.nz
Message-ID: <4q7k9b$jdo@orm.southern.co.nz>
Source record: 104566

cadams5 <cadams5@utkux.utk.edu> wrote:

>I would like to build a tnc(preferably 9600 baud) or a packet modem,
>does anyone know of any plans or kits. Just bored and want something to
>do.

> KE4YNN
> Brian

Although I am a few weeks shy of being ready to release it I have designed a low cost 9600 bps TNC and modem -- free to all. It will be released as schematics and PCB layouts. The TNC is Z80 based, and the modem uses a FX589 from CML. It is at the working stage, but I want to run a couple of PCB's to check all the last minute changes.

I have taken a lot of effort to make this "producable" in the ham environment eg. very few unusual parts, non PTH PCB etc.

I will post where it will be available here when it is ready,

Regards,
Gavin Melville, ZL3UGM
gavin@cypher.co.nz

3949. toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: DeGu@pcpool1.informatik.uni-ulm.de
Message-ID: <4q8mt4$kr8@rigel.rz.uni-ulm.de>
Source record: 104567

Hello there!

I'm developing a transceiver and - since I will have to implement
filters - I need information on toroids. Somehow I can't find anything

on the Web on toroids. I'm interrested in Amidon and Neosid products.
Please let me know the relevant netsites/addresses.
Thanks,
Guido DL5MGU

gmelo@hydra.informatik.uni-ulm.de

3950. Re: AM Radio Chip (LM1863)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: Bob Recny <brecny@globetek.com>
Message-ID: <31C7EFED.7B37@globetek.com>
Source record: 104568

Robert A. Lanier wrote:
>
> I am trying to find a source for the National Semiconductor LM1863 AM
> (Radio System for Electronically Tuned Radios). I would like to use
> this part for a current project, but I cannot find one. The part is on
> lifetime but, which means the part will be obsolete soon. National
> does not have any in stock and nither do the major distributors
> (Hamilton-Hallmark, Future, Zeus). Can anyone recommend another
> possible source or do you have a few extra parts you want to sell?
>
> Any help would be much appreciated.
>
> Tony, KE4ATO

Tony,

Try Rochester Electronics. They specialize in old and obsolete parts.
As a matter of fact, their "tagline" is "manufacture and distribution of
trailing edge semiconductors."

Their number is 508-462-9332 (508-462-9512 fax). This was taken from a
'94 - '95 catalog.

Good luck.
73 de Bob, N8SQT

3951. R-C to kick a relay...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: MattZ@pond.com
Message-ID: <4q8n1b$9gc_002@vf.pond.com>
Source record: 104569

Hi...

I just want to say thanks for all the help everyone has given me here in the past....

I have been looking around for a handbook on some items but have not found any that have what I need.... anyways thanks again ...

Here is the new question of the day..

Does any one have a simple r-c design that will click on a relay ...heres the thought ...comming off the 120 line .. about a 10-15 second delay, and the relay is to a 120 3a or so jobbie.. any easy suggestions??? I have to pick up the parts new from mouser..

thanks,.,...

z

3952. Re: Need: Cheap source of SMT Parts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4q98kc$aco@antares.en.com>
Source record: 104570

Allen Wallace <allen@dtint.dtint.com> wrote:
>
> In article <4q1m9q$rpt@tkhut.sojourn.com> KF8HN, cbenjam@dinfsvs.com
> writes:
> >Does anyone know of a mail-order source of Cheap surface-mount
> >components (not the regular $0.30 to $2.00 for a single ceramic
> >SMT capacitor parts source)?
>
>
>Old cell phones are usually great for this, but the Electronic GoldMine
at 602 451 7454 in SCottsdale AZ is stocks all sorts in standard values at
a good price, Also DC Electronics at 1 800 467 7736 stocks them as well
DC is great for RF parts like freq synthesisers and FM DEmods.

3953. Re: homebrew tnc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.6.19.11.58.16.2443217854.2919314@hcol.humberc.on.ca>
Source record: 104571

>
> Although I am a few weeks shy of being ready to release it I have
> designed a low cost 9600 bps TNC and modem -- free to all. It will
> be released as schematics and PCB layouts. The TNC is Z80 based, and
> the modem uses a FX589 from CML. It is at the working stage, but I
> want to run a couple of PCB's to check all the last minute changes.
>
> I have taken a lot of effort to make this "producable" in the ham
> environment eg. very few unusual parts, non PTH PCB etc.
>
> I will post where it will be available here when it is ready,
>
> Regards,
> Gavin Melville, ZL3UGM
> gavin@cypher.co.nz
>

Will pc vorad be available ? If so, any idea on cost ?

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

3954. Toroid WBT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: xdcrlab@quake.net
Message-ID: <xdcrlab-1906960847520001@xdcrlab.com>
Source record: 104572

Hi,

Just wondering if anyone has a canned wide band toroidal transformer
recipe for around 30 MHz. I have been reading past posts on the search
engines and based on those it looks like a 61 material at around an inch
or a 67 material at around 2 inch diameter and turns of around 12 and 20
respectively should do the trick. Ratio is 9:1. I have played with the
multiturn type windings and think I have that down.

Thanks for any help or pointers,

Mike

--
Articles: Melatonin, Folate, DHEA, etc.; Discount Sources Listing,
Herpes Alternatives Page, The Buffalo SpringBoard (retro)
http://www.quake.net/~xdcrlab/hp.html
ULTRANET: Ultrasound Technology Graphic Hot Links
http://www.quake.net/~xdcrlab/Ultrasound.html
Save the BW, I report unsolicited commercial email -> Blacklist of Internet Advertisers:
http://www.cco.caltech.edu/~cbrown/BL/

3955. Re: CUM car terminal

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <31C83695.646A@rrgroup.com>
Source record: 104573

smith bill wrote:
>
> Does any one know the modulation used and perhaps even the protocol on
> police car terminals in Montreal, Quebec region?

My guess is "no," but you might get a definitive answer in a scanner newsgroup, where such a question is on-topic. I suggest:

rec.radio.scanner
alt.radio.scanner

Enjoy, and good luck!

73 de KB9JTT

3956. Converting a RS CT-101 cellphone to 23 CM.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: P06288@email.mot.com
Message-ID: <1996Jun19.160716.21715@schbbs.mot.com>
Source record: 104574

I am trying to locate the schematis and service manuals for a Radio Shack
CT-101 cellphone so that I can attempt to modify it for the 23cm band. Anyone
have access to the above manuals/schematics that can helP?

You can email me at gerwitz@getnet.com with info.

Jim

3957. Re: Need help - HW101 problems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4q9o7c$9db@mksrv1.dseg.ti.com>
Source record: 104575

I have the HW-101 manual that you may borrow and make a copy of if you'd like. These are not complex rigs, so it should be easy to fix yours. I have restored many of these over the years.

Let me know if you want to borrow the manual. I will, however, hunt you down like an animal if you don't return it quickly and in good shape. ;)

73 de KC5NG (Dean) -- d-hemphill@ti.com

3958. Converting a RS CT-101 cellphone to 23 CM.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: P06288@email.mot.com
Message-ID: <1996Jun19.191225.29289@schbbs.mot.com>
Source record: 104576

I am trying to locate the schematis and service manuals for a Radio Shack CT-101 cellphone so that I can attempt to modify it for the 23cm band. Anyone have access to the above manuals/schematics that can helP?

You can email me at gerwitz@getnet.com with info.

Jim

3959. test do not read

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: Dave <ixstar!platypus@lucent.com>
Message-ID: <4q9ao5$70g@ssbunews.ih.att.com>
Source record: 104577

```
test
```

3960. Re: HF Emergency - An Ex

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-19 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4q9vv6$94d@news.calweb.com>
Source record: 104578

jim.hammock@tclbbs.com (Jim Hammock) wrote:
>B ->snip etc
>
> Not the power outage beyond scared people loading up the system. See
>my explaination below.
>
> >...snip snip etc
>
> No, that's the problem, the local authorities don't have a priority
>or flash overide system. That's why alternate means of communication are
>needed. If they could override non-urgent calls in a disater then things
>would get done. (Including making a lot of disconnected callers mad.)
>Some of the federal (closed) systems and military (closed) systems have
>that capability. (By closed I mean not accessable to the public.)
>
snip snip etc
>
> Jim KE4EDT/AA
>
>

Interesting. I haven't been involved with this in a few years but
the telcos DID have a different class of service for fire, police etc.

They didn't bump existing calls but did get preference when making
a call as I remember. Pending calls were put in a queue and there were
different queues for different classes of service.(I Think).
I had no reason to get into the details of how it was done.

Bill K7NOM

3961. acars shareware wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: "Paul Giusti (VK3FPG)" <pgiusti@iaccess.com.au>
Message-ID: <31C82052.6DB1@iaccess.com.au>
Source record: 104489
Cross-posted to:
rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.scanner,rec.radio.shortwave

i am wondering if any one out there can point me in the direction
to some acars decoding software and only the software as the hardware
side of things i have under control (hamcomm type similar to lowes)

any help in getting some software will be VERY appreciated and
recipricated in kind.

thanks in advance :-)

paul

3962. Re: Variable-length ladderline tuner: implementation issues

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: rmd@ka4ybr.netmha.com
Message-ID: <4qbgvo$qvu@ka4ybr.netmha.com>
Source record: 104490
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Has anyone considered using stepping relays for switching the line segments?
4 x SPNT (N=# of segments + 1 for indexing)
A microcontroller could step until the index is found and then step to the
appropriate segment based on your lookup table.
Heck, you could generate a signal to crank the
RF down while stepping.

If anyone knows of some suitable relays.....

-bob

--
Bob Duckworth Consulting, 960 Ralph McGill Blvd. Atlanta GA 30306-4447
bobs' address is rmd@ka4ybr.netmha.com 404-888-0389(V) 892-2301(FAX)
Buy Sell Trade Surplus Computer Electronics Datacom Telecom since 1981.
Fax or email your list for a fast cash offer. Watch for listserv catalog.

3963. Hold function for RS freq counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: ag368@FreeNet.Carleton.CA
Message-ID: <4qbff4$bgg@freenet-news.carleton.ca>
Source record: 104491
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Could someone please repost the mod. I thought I had my screen capture
enabled and when I went back to re-read the file I could no longer find
the article in the newsgroup.

thanks much.

--
Mark Boyer VE3MJB ag368@freenet.carleton.ca
mboyer@cyberus.ca

If diamonds are a girls best friend, then gravity must be her worst enemy!

3964. Automatic Antenna Tuner AT-11

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: nk30@alux3.cnet.att.com
Message-ID: <4qboii$qea@nntpb.cb.lucent.com>
Source record: 104492
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Has anyone built the automatic antenna tuner AT-11?

I am looking for input on how well it works.

Does it have enough protection for the transmitter while it is
selecting a match or does it simply rely on the pa design limits?

I am looking for a project to build and this would be useful.

Comments?

Jeff

NK3O

3965. Electronic Workbench

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: owens@stout.atd.ucar.edu
Message-ID: <4qbnfs$q3n@ncar.ucar.edu>
Source record: 104493

One of the recent ham magazines had an article about building up
a homebrew 30M transceiver. The author made extensive use of a
software package call "Electronic Workbench". Has anyone else used
this package that would care to comment on their experience with it?

Is there a source in the US to buy this software and how much is it?

Thanks!
Chip Owens, NW0O

--
Chip Owens NW0O, (owens@stout.atd.ucar.edu)

3966. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: vk3jma@ozemail.COM.AU
Message-ID: <199606201243.WAA08853@oznet02.ozemail.com.au>
Source record: 104494

Hi Andrew,

>Date: 13 Jun 1996 02:56:43 GMT
>From: bosch@mcs.com
>Subject: Good CB to Convert to 10m FM?
>
>In <4pmmpt$9g@usenet1.sjc.in.sel.sony.com>, Mark Schoonover - KA6WKE
<schoon@cts.com> writes:
>>Thanks for reading!
>>
>>I'm looking for a CB that would be relatively easy to convert to
>>10m FM. I have the usual equipment, etc. This would be my first
>>attempt and I don't know much about the different CB gear available.
>>
>
>I've always had the impression that modifying a CB for 10m use was illegal.
>
>Andrew (KA9VYG)
>

Even in australia it is widely known and incouraged for hams to build and
modify there
radio for use on the ham bands, even CB's!!!

This is what ham radio is all about!

73

Mark

ax25net : vk3jma@vk3blw.#mel.vic.aus.oc
internet: vk3jma@ozemail.com.au
fidonet : Mark Aitken @ 3:635/502

mobile (014) 803 939 [Australia anyway]

3967. Cellphone to 23 CM

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: tkomljan@mobility.COM
Message-ID: <1996Jun20.084546.1540.94391@mailgate02.mobility.com>
Source record: 104495

As already established in this newsgroup, most cellphones cannot be mod'ed unless you are able to take over control of the synthesizer AND replace the 881 and 836 MHz ceramic filters.

Certain older phones, such as the GE TR-160, have 3 Murata Gigafil filters. One of them, in the synthesizer area, is a DFC2R926.... a 2 pole 926 MHz +/- 12.5 MHz filter. If you got a few of these old phones, you could swap this filter into the appropriate areas, such as the output PA section, and give it a try???

Of course, you still have a lot of digital interface work and junk ceramic filters to through away.

Just a thought..... no guarantee's of success.

Tony K
VA3TK

3968. Help with Alpha 78 blowing fuses

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: jjbayne@worldnet.att.net
Message-ID: <4qc6sf$frv@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104496

I just sold my Alpha 78. The gentleman that bought it called me and said that as soon as he turns it on, both of the fuses blow. He replaced them, and the blow again. I have never had a problem with this. Can anyone shed some light on the problem?

73 John N4EEB

3969. Re: toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: "Charles H. Reichert" <qa2696@email.mot.com>
Message-ID: <31C98CCF.41C67EA6@email.mot.com>
Source record: 104497

Guido de Melo wrote:
>
> Hello there!
>
> I'm developing a transceiver and - since I will have to implement
> filters - I need information on toroids. Somehow I can't find anything
>
> on the Web on toroids. I'm interrested in Amidon and Neosid products.
> Please let me know the relevant netsites/addresses.
> Thanks,
> Guido DL5MGU
>
> gmelo@hydra.informatik.uni-ulm.de

Amidon will (did) supply in-depth design liteature which I've used
succesfully in the past. If not let me know.

--
\|/
^ ^
(O O)
====================.ooO==U==Ooo.====================
| KD9JQ 847-358-3827 Home |
| Charles H. Reichert 847-632-6669 Work |
| 955 Concord Ln. |
| Hoffman Ests., IL. 60195 qa2696@email.mot.com |
===

3970. Help! No UHF UUMPH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: Bill Meara <w.meara@codetel.net.do>
Message-ID: <4qcdlk$c8v@server2.codetel.net.do>
Source record: 104498

I may have told this sad story before, but my troubles persist, so here I go again:

I'm trying to get my Hamtronics XV4 transmitting converter running. It converts 28 Mhz to 435 Mhz. The oscillator section seems to be running fine, but instead of getting 1.5 watts out from the transmitter section, I think I'm only getting about 250 milliwatts. My test instuments arent the best - homebrew RF probe to a VTVM. The manual says that the unit should draw around 35O ma with key down from the driver - my amp meter shows only about 225 ma. This supports the reading that I'm getting from the VTVM and the probe: not enough power out. The driver transistor (with heat sink) heats up as it should. I've checked the DC voltages on all the transistors - they all look OK.

Any ideas?

Thanks Bill N2CQR/HI8

3971. Re:CB to Convert ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: Roy Parker <ccrip@showme.missouri.edu>
Message-ID: <31C9B5ED.37B8@showme.missouri.edu>
Source record: 104499

> I've found the 23 or 40 channel Hygain boards to be easy to
> convert. The ones that use a PLL02A pll IC and 3 xtals (10.240 and 10.595
> mhz and a 3rd I can't remember at this moment). They have a greenish PC
> board and were made for Hygain, Midland, Kraco (K-Mart), etc.

Hi,
Has anybody ever gotten the "odd" pll chip to work??
The "MM58141n" pll chip that is somethimes used instead of the Pll020?
Would I be ahead to use the board for the IF and Audio stages??

de Roy AA0B (ccrip@showme.missouri.edu)

3972. Re: Homebrew Pagers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: midgard@nycmetro.com
Message-ID: <1162.6744T935T811@nycmetro.com>
Source record: 104500

>Hello everyone, I'm interested in making a homebrew pager that I would
>operate on an amateur band. I'm wondering if anyone out there has ever
>attempted this? That or is it possible to modify a standard pager to
>receive it's signal in an amateur band and then to build a transmitter for
>my home? If anyone has any information, please email me at
>tgunn@mbnet.mb.ca...
There's an article on this in the latest issue of CQ talking about the
Kantronics KPC96 being used to send Pages in the VHF and UHF bands
According to the woman I spoke to at Kantronics they recommend Motorola Bravo
pagers for conversion. They also sell them retuned to 2 meter or 70 cm band
They also have a book on doing it yerself which I've ordered but which was
unfortunately out of stock.

<tsb>
Midgard Graphics
3D Animation and Special FX for the hobbyist videographer
Email: midgard@nycmetro.com

--
Drop into #amigacafe on IRC's undernet for a chat sometime

--

<tsb>

A man of many hobby's master of none.

Visit our Home Page at http://nycmetro.com/midgard

3973. Varian Tube JBXT 6975 From B52 Tailgun Radar

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4qceum$2ci@antares.en.com>
Source record: 104501

Hello to all,

I have a tube that was a local oscillator in a B52 tail gun radar
assembly which my former employer bought as scrap. It is made by Varian,
has a waveguide flange on the side with a matching assebly, leads for the cathode
a top terminal with a HV lead, and a terminal on the side of the metal tube like
a ground lug. The tube is all metal construction and about three inchs long and maybe
9/16s at its widest, not counting the flange assembly. Has a bright red paint job and is in
mint condition

numbers on side of tube, JBXT 6975 (part number)
6426 67 (date code ?)
72H4

Two questions, what band is it, and how do I bias it for operation?
my guess is its a very tiny klystron or some form of exotic microwave oscillator,
any help would really be appreciated!! Please reply by email as well as
post as this newsgroup is rather hard to get from time to time.

73's Steve N8VKD, osteven@en.com

3974. 10Kb/s data links using cellular chips?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: ic@deakin.edu.au
Message-ID: <4qb8ru$ei@hitch.smoke.local.au>
Source record: 104502

The specs for Analog celluar phones indicate they use a 10Kb/second
Manchester coded data channel.
Has anyone used the same type of coding (all on one chip perhaps ?)
successfully on 2m or 70cm. I assume that they would be keeping banwidth
down to fit in the same bandwidth as a 'normal' celluar voice channel.

--
Ian Clark VK3KRI ic@deakin.edu.au http://www.deakin.edu.au/~ic/

3975. Toshiba 2SC3810

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-20 00:00:00 UTC
From: sansoni@mbox.vol.it
Message-ID: <4qc82k$a9d@everest.vol.it>
Source record: 104503
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Hallo,
there is someone who can tell me an equivalent of 2SC3810 NPN
transistor made by Toshiba?
It is a final of three mounted on a power supply 13,8 volts 30 A
(Daiwa model PS30Xm II)
Many tanks

3976. Mic Radio Matching Query

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: NJC@WARWICK.NET
Message-ID: <4qd1cv$jef@news1.warwick.net>
Source record: 104504

Hi name her is Nick and I hope you can help.

If you have a radio, any radio, that has a 600ohm mic input and you want to feed it with a mic element that is of a different resistance. How would you suggest going abt it?

The reason I ask is I have a Shure hand mic that the element seems to be around 15k ohm. I want to match it to a radio here that requires abt 600ohms. I can't seem to locate a matching transformer for 15k-600.

Is there any other way to do this?

Any help would be appreciated.

Tnx and 73
Nick
N2QXF

3977. Re: ATV Homebrew???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Shelby Merrick <smerrick@som-uky.campus.mci.net>
Message-ID: <31CA96C2.1A08@som-uky.campus.mci.net>
Source record: 104505

Michelle Nicolls wrote:
>
> Does anyone have any ideas for low power(<.5 watt) ATV transmitters
> or downconverters? Just bought a used camera and am looking for a
> cheap, fun way to get started. Any help welcome.
>
> TNX, Troy. KE6QMX

A friend of mine and I are working on a project using vcr multipliers. These consist of a small 900Mhz transmitter that hooks to your vcr and lets you put a receiver somewhere else in the house on another TV. GEMINI sold these and called them "Rabbits". You might have seen them in electronic catalogs a couple of years ago. Well it so happens that Wal-Mart has a smiliar device under the Popular Mechanics brand name. They call them "VCR Multipliers". Some Wal-Marts have sold out and I believe that they have been discountinued. The transmitter and receiver I bought was $29.00. They also had receivers on clearance for $8.00 each. You can find them back in the electronics section. If not there, then ask for the clearance isle. It's probably next to the layaway desk. The two units work in the 900Mhz amateur band. The receiver has a fine tuner on the back. With a little tuning inside, it could be centered into the amateur band. With believe with a little work, one could solder a so-239, bnc, or N-Connector into the back of each box and build a small beam. You would need to work up a tx/rx relay for the two units. Also, you would need to build a pre-amp and a small amplifier. I have been pretty busy lately though and have not had time to experiment with this. If you have any luck, let me know.

73's
Shelby KE4AKA

3978. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: drx1@ix.netcom.com
Message-ID: <4qd2le$l21@dfw-ixnews7.ix.netcom.com>
Source record: 104506

In <199606201243.WAA08853@oznet02.ozemail.com.au> vk3jma@ozemail.COM.AU
(Mark Aitken) writes:
>
>Hi Andrew,
>
>>Date: 13 Jun 1996 02:56:43 GMT
>>From: bosch@mcs.com
>>Subject: Good CB to Convert to 10m FM?
>>
>>In <4pmmpt$9g@usenet1.sjc.in.sel.sony.com>, Mark Schoonover - KA6WKE
><schoon@cts.com> writes:
>>>Thanks for reading!
>>>
>>>I'm looking for a CB that would be relatively easy to convert to
>>>10m FM. I have the usual equipment, etc. This would be my first
>>>attempt and I don't know much about the different CB gear available.
>>>
>>
>>I've always had the impression that modifying a CB for 10m use was
illegal.
>>
>>Andrew (KA9VYG)
>>
>
>
>Even in australia it is widely known and incouraged for hams to build
and
>modify there
>radio for use on the ham bands, even CB's!!!
>
>This is what ham radio is all about!
>
>73
>
>Mark
>
>ax25net : vk3jma@vk3blw.#mel.vic.aus.oc
>internet: vk3jma@ozemail.com.au
>fidonet : Mark Aitken @ 3:635/502
>
>mobile (014) 803 939 [Australia anyway]
>
that correct no type accpt. required for ham bands and ham operators
but it would be a good idea to test outputs with the proper test

equitment before hooking it to an ant. good luck tim kf4fco

3979. Novar 9 Pin Sockets for 6LR8 based CW Xmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: cfb@bga.com
Message-ID: <4qd8dp$13f8@news3.realtime.net>
Source record: 104507

Hi,

I am getting the bits together to build an 80M & 40M CW Xmitter (for when I get my novice & technician license/s). It is based on a 6LR8 TV sweep tube.

This tube is not too expensive and seems relatively easy to get. However, it has a 9 pin Novar base. Antique Electronic Supply doesn't have such a tube socket listed in their catalog. I have looked through other surplus catalogs, (Fair Radio Sales and All Electronics) but haven't seen such a socket.

Does anyone know where I could get such a beastie?

Thanks,

Chris (cfb@bga.com)

3980. Need 8874's

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: jjbayne@worldnet.att.net
Message-ID: <4qd7nd$r8k@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104508

Can anyone give me advise on the best place (most reasonalbe price) to buy 8874 ceramic tubes? My Alpha 78 lost one, and I need to replace it.

Thanks,

John N4EEB

3981. Re: homebrew tnc

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.6.21.7.48.58.2443217854.2932816@hcol.humberc.on.ca>
Source record: 104509

>
> Although I am a few weeks shy of being ready to release it I have
> designed a low cost 9600 bps TNC and modem -- free to all. It will
> be released as schematics and PCB layouts. The TNC is Z80 based, and
> the modem uses a FX589 from CML. It is at the working stage, but I
> want to run a couple of PCB's to check all the last minute changes.
>
> I have taken a lot of effort to make this "producable" in the ham
> environment eg. very few unusual parts, non PTH PCB etc.
>
> I will post where it will be available here when it is ready,
>
> Regards,
> Gavin Melville, ZL3UGM
> gavin@cypher.co.nz
>

Will pc vorad be available ? If so, any idea on cost ?

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

3982. Stuff for sale.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: cw thomas <cwthomas@pop.erols.com>
Message-ID: <31CACEEF.21F8@pop.erols.com>
Source record: 104510

HI;

Thanks for reading this.
I have the following stuff for sale or trade. If it says it works,
it works and I'll replace or refund your money at my option should you
have any problems with it. However, please don't buy something and
then decide you don't need or want it and expect me to take it
back. Also If something says 'cond unknown' that means I don't
know if it works or not. and I won't guarantee it. Its as is.
If the price says quan for x dollars that means I will not sell them
in single quantities. (I'm lazy).
Alot of these boards are pulls from a big computer place out here
that went belly up. From the stuff I've pulled out and tested,
it appears that they went out of business because they were
throwing away good cards.

Micronics 486 system board Eisa 3 system board 8 slot,accepts
80486sx,dx,dx2 comes with Cache srams, DOcs and CPU
Condition Unknown.....35.00

80486 sys board 8 slot comes w/cache srams,No docs/CPU Cond. Unk..20.00

486 SYS board no docs jumpers function marked on board to set CPU
speed etc. Comes w/ Cache sram, And docs No CPU..Cond. Unk...35.00

486 sys board No docs, No cache has PCI slots, No cache srams
No CPU.Cond. Unk.....25.00

80386-33 Mhz mother board works with docs..... 35.00

80386-40 Mhz nother board works with Docs..... 40.00

1.44 Floppy w/ PCMCIA slot And adapter card no cables.cond unk..20.00

1.2 Meg Floppy Works..... 15.00

1.44 Meg Floppy Works.....15.00

Toshiba P321sl printer W/ DOCs. works.....40.00

HP laserjet Network Card Cond. Unk. 15.00

8- 1 meg 32pin simms 70ns speed works..... 40.00/four

PCMCIA Network Card comes w/ docs, 1.44 meg disk w/ software
and adapter cable Cond. Unk.....25.00

relisys VGA monitor I don't think this is SVGA but it works.. 75.00

Ikegami Color NTSC camera works but has a green picture.....10.00

RCA 4 inch mono NTSC monitor. works.....20.00

1X CD ROM drive Works, with cable and controller 20.00

Hayes external 2400 baud modem..works.....15.00

Assorted PCI bus VGA cards all work some are diamond
stealth cards all have at least 1 Meg of Memory.....25.00 Ea.

Assorted Network cards includes 3com, intel some are specify
PCI or regular bus Cond. Unk.....4/20.00

Assorted SCSI Cards No docs No cables. Cond. Unk.....3/20.00

Assorted IDE/Floppy/COM1,Com2/Paralell.Cond. Unk.....4/15.00

assorted Sound cards incl Soundblaster 16 and others. NO docs.
Cond. Unk.....2/30.00

Modem Cards all are at least 2400 Baud some are 14.411 and higher
No docs But most have rockwell chips so they should be
Hayes command set..Cond. Unk.....3/25.00

Tasco Student Microscope comes in a wooden case works.
I'll throw in aome canada balsam.....25.00

Seagate st251 40 Meg MFM disk drive works needs home.....25.00

Thanks;

C.W. Thomas

3983. HR 251O

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: ddh16@aol.com
Message-ID: <4qe8un$cqn@newsbf02.news.aol.com>
Source record: 104511

I HAVE A PROBLEM WITH THE VOLUME ON AM. I HAVE TO TURN IT ALL THE WAY UP
TO HEAR. THE VOLUME WORKS FINE ON ALL OTHER BANDS.
ALSO WHEN I PUSH THE NOISES BLANKER IN IT CUTS THE VOLUME JUST ABOUT ALL
THE WAY OUT. I'M RECIEVING GOOD SINGNALS JUST KNOW VOLUME ON AM.

ANY IDEARS WHAT COULD BE CAUSING THIS?

PLEASE HELP AND THANKS FOR READING THIS SOS.

YOU CAN E-MAIL ME AT DDH@AOL.COM

THANKS

3984. Re: toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: benjy@vt.edu
Message-ID: <4qefg9$2hm@solaris.cc.vt.edu>
Source record: 104512

In article <4q8mt4$kr8@rigel.rz.uni-ulm.de>,
DeGu@pcpool1.informatik.uni-ulm.de (Guido de Melo) writes:
>Hello there!
>
>I'm developing a transceiver and - since I will have to implement
>filters - I need information on toroids. Somehow I can't find anything
>
>on the Web on toroids. I'm interrested in Amidon and Neosid products.
>Please let me know the relevant netsites/addresses.
>Thanks,
>Guido DL5MGU
>
>gmelo@hydra.informatik.uni-ulm.de
>

See http://zeus.cedcc.psu.edu/ind/toroid.html.

73, Benjy
--
Benjy Cline, AC4XO, Ph.D.
Virginia Tech Computing Center
benjy@benjy.cc.vt.edu
http://benjy.cc.vt.edu:1951/~benjy/

3985. Re: Help! No UHF UUMPH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4qegdg$1um@antares.en.com>
Source record: 104513

Bill Meara <w.meara@codetel.net.do> wrote:
>
> I may have told this sad story before, but my troubles persist, so here I
> go again:
>
> I'm trying to get my Hamtronics XV4 transmitting converter running. It
> converts 28 Mhz to 435 Mhz. The oscillator section seems to be running
> fine, but instead of getting 1.5 watts out from the transmitter section,
> I think I'm only getting about 250 milliwatts. My test instuments arent
> the best - homebrew RF probe to a VTVM. The manual says that the unit
> should draw around 350 ma with key down from the driver - my amp meter
> shows only about 225 ma. This supports the reading that I'm getting from
> the VTVM and the probe: not enough power out. The driver transistor
> (with heat sink) heats up as it should. I've checked the DC voltages on
> all the transistors - they all look OK.
>
> Any ideas?
>
>
> I would check out the drive levels to the power transistor, also see
if your transistor is heatsinked well enough. Commom faults on UHF boards
include, bad trimmer or fixed caps having a value other then marked,
unnessacery lead lengths, proximity of the metal case to the circuit board,
stray coupling to a nearby object, or general missalignment.

You really need to evaluate your measuring instruments. The probe should be discarded and
a box made with a BNC connector or similar, with two 100 ohm surface mount resistors
in parallel going to chassis ground via a very short brass or copper strap.
with the feed for the diode detector coing off of this, you can measure
vary accurately down to very low powers with this, and you hand capacitence wont
detune the circuit this way. Details on how to build a excellent diode
detector that is accurate are available in the TECH library at WWW.Wenzel.com
which includes a calibration chart.
>

3986. (no subject)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Horn@mint.NET
Message-ID: <199606211546.LAA29621@mint.mint.net>
Source record: 104514

I am looking for a GAP "Challenger DX" vertical antenna, 80 - 2 meters, in reasonably good shape. Also want to find a nice, used IC-2000 H 2M transceiver, too. Please E-Mail at n1umf@mint.net TNX!

3987. Re: Novar 9 Pin Sockets for 6LR8 based CW Xmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4qf0u7$p6p@newsgate.sps.mot.com>
Source record: 104515

The last time I found a 9-pin Novar socket, it was
in an old junked TV -- probably gave up a 6LR8 tube
as well, but I can't say for sure.

I suggest you try the back lot at a TV shop, or do
a little dumpster diving. Might help to advertise
on your local *.forsale newsgroup offering to haul
off old TVs or electronics until you get the part
you need.

N6OTQ

3988. is mono minitor available on ATV ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: JungHo Yu <yu.130@pop.service.ohio-state.edu>
Message-ID: <4qep9i$6dq@charm.magnus.acs.ohio-state.edu>
Source record: 104516

i wanna use mono Monitor for ATV receiving.
pse let me know if it 's possible or not.

--
Yu.130@osu.edu
Amateur Radio Callsign KC8DJQ / DS5RTN
OHIO STATE UNIV.

3989. Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Nathan Odle <c670064@showme.missouri.edu>
Message-ID: <31CB21C0.16CE@showme.missouri.edu>
Source record: 104517
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

Does anyone know of any kits/plans/directions for the construction of microwave gear? I'd like to start out with a simple wideband voice link using a horn and dish, and progress to maybe a 10GHz data link. I have seen the project in the 1994 ARRL Handbook, and think it might be a little too complicated to start with. Any help along these lines will be GREATLY appreciated.

3990. Re: Is their a way to do packet on a pocket organizr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Nathan Odle <c670064@showme.missouri.edu>
Message-ID: <31CB1E5D.8D3@showme.missouri.edu>
Source record: 104518

muon@indirect.com wrote:
> I was wondering if their is away to do packet on a wizard organizer.
It would be nice to not have to carry around a big laptop computer on
camping trips. If their is away by means of software for a built in TNC
into the organizer, then that would be excellent.
<

Well, I don't know about the wizard, but I know how to get an HP-48G
calculator up on packet, as well as the Apple Newton. The main thing
you need to be looking for on the wizard is a serial port, but I don't
think it has one, does it?

-Nathan
c670064@showme.missouri.edu

3991. Re: Simple VLF radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Nathan Odle <c670064@showme.missouri.edu>
Message-ID: <31CB2040.6735@showme.missouri.edu>
Source record: 104519

Last month's (or was it 2 months ago? Check your library) Scientific American had instructions on winding a large loopstick-type of antenna for VLF work, and I think it included schems for a reciever. Check it out...I'm considering building one of these with a friend who's an amateur meteorologist for lightning detection.

-Nathan
c670064@showme.missouri.edu
http://www.missouri.edu/~c670064

3992. Homebuilt mobile 6 meter / 2 meter antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Earl Needham <NeedhamE@3lefties.com>
Message-ID: <01bb5fcd.7433b220$f31865ce@SNeedha.3lefties.com>
Source record: 104520

I'm interested in a combination 6 meter and 2 meter mobile antenna. However, at the price for commercially available gear, I'd end up spending about $80 US for the antenna, $70 US for the mount, and probably $80 US for the duplexer.

Has anyone ever homebuilt an antenna for these two bands, perhaps using a trap? If so, would you mind giving me some pointers / ideas for doing so? Thanks!

--
Earl Needham, KD5XB, in Clovis, NM
Phi Mu Alpha Sinfonia, Pi Chi '76
Have you really jumped ROUND PARACHUTES? (Overheard at the Clovis Parachute Center)

3993. Re: is mono minitor available on ATV ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: rkoblish@aol.com
Message-ID: <4qfdmj$pvh@newsbf02.news.aol.com>
Source record: 104521

I assume that you mean a monochrome TTL-input monitor as used with IBM PCs.
The Readers' Digest answer is No, it won't work. ATV uses standard NTSC video with 15.75 KHz horizontal sweep but the IBM monitor uses 17 or 18 KHz (I forget the exact value). Early monitors were not tolerant of variation from their design frequency and might be destroyed if you drove them at the wrong rate. Even if that were not so, the computer monitor takes logic levels for its input and requires separate video, intensity, horizontal, and vertical sync signals. You'd have to rework the video amplifier to make it analog (so you could see shades of grey) and build a sync separator.

You *can* use an Apple II monitor such as the Amdek Video 300 (NOT the 310, which is the IBM model as described above). I've seen them abandoned at hamfests 'cause nobody wanted them. Or else a TV receiver with a video input jack, a used surveillance monitor, etc.

You might find an older CGA monitor that is switchable between TTL-level and composite video input. I have a Zenith monitor that does this and I know that Sears sold one, too. The CGA spec used the same can rates as NTSC and was designed that way so it could be run into a video modulator so you could play games on your computer and see the output on your TV.

Unless you *really know what you're doing, don't try to add a video input jack to a TV receiver, as many of them have the chassis connected to one side of the power line and if you do something wrong such as put the plug into the wall the wrong way you could kill yourself or your equipment.

If you live nearby a local ATV'er or ATV repeater, try receiving the ATV directly with your receiver. A couple of ways to do this:

1. Using a new, inexpensive receiver with continuous tuning, try tuning below Channel 14 on the UHF band. Many of these sets will go far enough below 14 (which corresponds to 470..476 MHz) to pick up our local ATV repeater's output at 438..444 MHz. Some will even tune down to the input on 425..431!

2. Using an older varactor-tuned receiver (the kind that has a little knob that you turn to set the channel received by each clickstop), tune below 14 on the UHF band as per the above. These sets were really continuous-tuned with a dozen or so presets.

3. If you have a cable-ready TV or VCR, put its tuner in CABLE mode, then disconnect the cable and connect your antenna in its place. The output of our local ATV repeater corresponds to Cable channel 60 and is receivable this way.

4. If your local ATV repeater has an output in the 902..928 MHz amateur band, you might receive it using a Rabbit VCR Multiplier ahead of your TV. This band is shared among the Amateur service, Part 15 devices such as the Rabbit, and other Industrial, Scientific, and Medical (ISM) devices.

For further ATV info, our club (the Baltimore Radio Amateur Television Society) has a web site (with links to other ATV sites:
http://www.smart.net/~brats
Or email brats@smart.net

Hope this helps.
73,
Bob Koblish
N3HAT

3994. Re: Morse code FSK?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: gc@universe.digex.net
Message-ID: <4qfo7u$ctl@universe.digex.net>
Source record: 104522

In article <4q4jh8$1ri2@chnews.ch.intel.com>,
Cecil A. Moore~ <cmoore@vegas.ch.intel.com> wrote:
>Has anybody tried Morse code over an RTTY modem? Run an
>audio oscillator from the mark output? It's not RTTY
>and it's not CW. Is it legal?
>

The FCC used to require that RTTY transmissions (all transmissions,
not just RTTY) be ID'ed by either voice or Morse code. For F1 (FSK)
or F2 (AFSK) transmissions it was common to use the same mode
for the ID as for the RTTY. I am fairly sure it is still legal.

I only did it for identification purposes. Copying by ear is
a little difficult, so keying the audio oscillator might be
a good idea.

Gary

3995. 432 pwr meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: mitchell@scoot.netis.com
Message-ID: <DtCzDM.E39@scoot.netis.com>
Source record: 104523

I have a 432 power meter available if someone is interested. There is no power sensor. Unit was being discarded by company in large housekeeping project. condition unknown. . Meter is clean and not scratched, dented and such.

Make offer.

3996. Re: Help! No UHF UUMPH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: Thor Wiegman <thorw@nidlink.com>
Message-ID: <01bb5ff8.d3bfa160$0c4960ce@thorw.nidlink.com>
Source record: 104524

> Steve Roberts <osteven@en.com> wrote in article
<4qegdg$1um@antares.en.com>...
> Bill Meara <w.meara@codetel.net.do> wrote:
> >
> > I may have told this sad story before, but my troubles persist, so
here I
> > go again:
> >
> > I'm trying to get my Hamtronics XV4 transmitting converter running.
It
> > converts 28 Mhz to 435 Mhz. The oscillator section seems to be running

> > fine, but instead of getting 1.5 watts out from the transmitter
section,
> > I think I'm only getting about 250 milliwatts. My test instuments
arent
> > the best - homebrew RF probe to a VTVM. The manual says that the unit
> > should draw around 350 ma with key down from the driver - my amp meter

> > shows only about 225 ma. This supports the reading that I'm getting
from
> > the VTVM and the probe: not enough power out. The driver transistor
> > (with heat sink) heats up as it should. I've checked the DC voltages
on
> > all the transistors - they all look OK.
> >
> > Any ideas?
> >
> >
> > I would check out the drive levels to the power transistor, also see
> if your transistor is heatsinked well enough. Commom faults on UHF
boards
> include, bad trimmer or fixed caps having a value other then marked,
> unnessacery lead lengths, proximity of the metal case to the circuit
board,
> stray coupling to a nearby object, or general missalignment.
>
> You really need to evaluate your measuring instruments. The probe
should be discarded and
> a box made with a BNC connector or similar, with two 100 ohm surface
mount resistors
> in parallel going to chassis ground via a very short brass or copper
strap.
> with the feed for the diode detector coing off of this, you can measure
> vary accurately down to very low powers with this, and you hand

capacitence wont
> detune the circuit this way. Details on how to build a excellent diode
> detector that is accurate are available in the TECH library at
WWW.Wenzel.com
> which includes a calibration chart.
> >
>
>
Sounds like your test bench is fine (unless you can afford more)....sounds
like you're making accurate measurements. I agree that you need to look
at the drive to the final section. The fact that you have heat like you
"should" makes me go "hmmmmmmm" but all other indications are that you
have a weak driver or the coupling between stages is out of tune or open.

Armchair troubleshooting de N7JCT

3997. Tnx, CATV xfmr help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: pmarkham@sun.lssu.edu
Message-ID: <4qejts$sm@doc.zippo.com>
Source record: 104525

My thanks to the many responses concerning 1/4 wave catv xfmrs. I hope others found much of the info of value, as I did.

Pete/wa4hei

3998. LORAN C homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-21 00:00:00 UTC
From: wmoyes@cello.gina.calstate.edu
Message-ID: <4qdloc$s98@cello.gina.calstate.edu>
Source record: 104526

Does anyone have designs for a homebrew LORAN reciever? All I need is the antenna/filter/RF amp stages, the processing steps should be easy. Thanks!

-William Moyes
wmoyes@cello.gina.calstate.edu
KC6ARO

3999. Help with HR2600 and PTT for transverter.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: markm@kdcol.com
Message-ID: <4qg2jm$b97@kdcol.kdcol.com>
Source record: 104429

I have a HR-2600 10 meters radio that I am using for a IF for 222 mHz Transverter. I would like to key it and an amp with the PTT from the HR-2600 but have not been succesful in finding a way looking at the schematic except to put box between the Mic and the rig to get it. So, was wondering if anyone else might have been able to find a way to get the PTT safely out of the radio.

Tnx, Mark, KE7NS

markm@mail.kdcol.com

4000. VSWR meter for UHF bands Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: cureton@minyos.its.rmit.EDU.AU
Message-ID: <4qgisc$45d@aggedor.rmit.EDU.AU>
Source record: 104430

Hi,
I'm looking for a scematic for a VSWR meter that will work into
the uhf bands up to 500Mhz. Most designs I have found only extend to the
30Mhz barrier. I have been thinking of modifying the directional coupler
of the tandem match directional wattmeter outlined in the ARRL handbook
but are unsure if transformers in this design would work very well at
such a high frequency.

How accurate are the VSWR meters that are made of simple stripline
construction?

Ultimatly I would like a meter that covers the 2 meter band as well as the
UHF CB band a bit below 500Mhz.

Thanks in advance

'73 de David

Email me on Cureton@minyos.rmit.edu.au, I will post results to the
newsgroup

4001. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jun22.100114.19908@ke4zv.atl.ga.us>
Source record: 104431
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

In article <31CB21C0.16CE@showme.missouri.edu> Nathan Odle <c670064@showme.missouri.edu> writes:
>Does anyone know of any kits/plans/directions for the construction of
>microwave gear? I'd like to start out with a simple wideband voice
>link using a horn and dish, and progress to maybe a 10GHz data link. I
>have seen the project in the 1994 ARRL Handbook, and think it might be a
>little too complicated to start with. Any help along these lines will
>be GREATLY appreciated.

The "standard" way to start out on 10 GHz has been with a pair of Gunnplexers. The cheap motion detector types (about $20) will work, though the Microwave Associates units are better. Advanced Receiver Research sells complete MA units, though they're a bit expensive (over $300 each). The major difference between the MA type and the motion detectors is that the former have a separate modulator varactor diode while the latter have to be modulated by varying the Gunn diode current. This allows the MA types to handle wider bandwidth modulations, such as video or high bandwidth data, while restricting the motion detector types to just voice or lower bandwidth data.

Due to the relatively poor frequency stability of Gunnplexers, WBFM with AFC is used. They are always setup in duplex links by offsetting one of the pair by the IF frequency from the other. Typically, 30 MHz has been chosen as the IF, so the two Gunnplexers will be offset 30 MHz from each other. However, the 10 GHz amateur band is wide (500 MHz), so a higher IF can be used. One cheap solution is to choose 100 MHz (or any other clear frequency in the FM broadcast band) as the IF and use a regular broadcast FM receiver as the IF.

One of the pair is allowed to free run while the other has the AFC voltage of the IF receiver brought out to drive its Gunnplexer. This forces the "slave" station to track the other station at the fixed IF offset. As I mentioned, operation is duplex. The Gunn source acts as both transmitter and LO for the station at the same time. This means you hear yourself as well as the other station in the IF receiver.

For modulation of the motion detector types, use an adjustable current regulator with the modulation superimposed on the adjustment terminal of the device. There are several 3-terminal regulators which can be used this way. For the MA types, just apply the modulation to the varactor diode. The hardest part of this project is combining the AFC voltage from the IF receiver of the slave station with the

modulation of the slave, and with a DC tuning voltage. An opamp summer works fine for this.

You do rough tuning of the units with their mechanical tuning screws, do fine tuning with the DC tuning voltage, then flip a switch to activate the AFC voltage on the slave when you hear the other station. That's it. The units should stay locked together from this point on and you should be able to work duplex. A more elegant method sweeps the DC tuning voltage until lock is achieved then transfers control of frequency automatically to the AFC.

Note, you need some way of measuring the 10 GHz frequency so that you stay inside the amateur band. A simple wavemeter is sufficient. You can make this (adapt a micrometer as the tuning plunger and scale), or scrounge one surplus, or borrow one from another amateur active on 10 GHz.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4002. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4qgmki$2gjs@info4.rus.uni-stuttgart.de>
Source record: 104432
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

In article <31CB21C0.16CE@showme.missouri.edu>,
Nathan Odle <c670064@showme.missouri.edu> wrote:
>I'd like to start out with a simple wideband voice
>link using a horn and dish, and progress to maybe a 10GHz data link.

As a matter of curiosity, Is there a hope to find a QSO-partner
on 10GHz WBFM? When I finished my WBFM TRX 10 years
ago, it turned out that everyone else here had moved to SSB.

73, Moritz DL5UH

4003. FS: Homebrew 30L1 For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: old33@norfolk.infi.net
Message-ID: <4qh198$bgd@nw101.infi.net>
Source record: 104433

```
Beautiful 30L1 w/4 811a tubes and 2 new spares. Will sell for $250.
Email for more info: old33@norfolk.infi.net
73 de KD4ZVF
```

4004. WTB: 6 meter transverter diagram

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: felipe@pobox.com
Message-ID: <4qgve5$n1s@unix1.ism.com.br>
Source record: 104434

Hi,

I need the diagram of a 6 meter converter to use in my 2 meter
allmode, or HF radio.

Anything is welcome

73's de PU1WLF - felipe@pobox.com

4005. WTD: 430/440 MHz Converter diagram

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: felipe@pobox.com
Message-ID: <4qgve7$n1s@unix1.ism.com.br>
Source record: 104435
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

Hi,

I need the diagram for a converter (only TX is ok) for use in HF or
VHF radio.

thanks & 73's,

felipe@pobox.com

4006. Re: Novar 9 Pin Sockets for 6LR8 based CW Xmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4qh92m$ol0@news.calweb.com>
Source record: 104436

When you find a TV with the correct socket check out the transformer
as you may want it also.

Bill K7NOM

4007. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4qh9ht$ol0@news.calweb.com>
Source record: 104437
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

To measure the 10 GHz frequency, Set up the Gunnplexer to transmit
and measure the receive diode current. Put a sheet metal reflector
in front and move it towards and away from the Gunnplexer. You
should see the diode current go through minimum and maximum values.
The distance between minimum's is a half wave. If you move
the plate through many halfwaves you can average the measurements
and easily get into the 10GHz band.

I hope that description is clear.

Bill K7NOM

4008. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4qhomr$7ab@antares.en.com>
Source record: 104438
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

Nathan Odle <c670064@showme.missouri.edu> wrote:
>
> Does anyone know of any kits/plans/directions for the construction of
> microwave gear? I'd like to start out with a simple wideband voice
> link using a horn and dish, and progress to maybe a 10GHz data link. I
> have seen the project in the 1994 ARRL Handbook, and think it might be a
> little too complicated to start with. Any help along these lines will
> be GREATLY appreciated.

Try the RSGB (radio society of Great Brittain) UHF/VHF handbooks,
usually available from ARRL or in a really good university library,
also check out back issues of 73 magazines micro column by CL Houghton
as he likes to work on a budget as well.
hope this helps.

4009. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: Jim Odle <jimodle@infowest.com>
Message-ID: <31CC65AD.5F36@infowest.com>
Source record: 104439
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

Gary Coffman wrote:
> The "standard" way to start out on 10 GHz has been with a pair of
> Gunnplexers. The cheap motion detector types (about $20) will work,
> though the Microwave Associates units are better. Advanced Receiver
> Research sells complete MA units, though they're a bit expensive
> (over $300 each). The major difference between the MA type and the
> motion detectors is that the former have a separate modulator varactor
> diode while the latter have to be modulated by varying the Gunn
> diode current. This allows the MA types to handle wider bandwidth
> modulations, such as video or high bandwidth data, while restricting
> the motion detector types to just voice or lower bandwidth data.

<Stuff Deleted>

Yes, this is almost exactly what I have in mind. However, I don't have
any experience putting something like this together. I understand the
theory in practice here, I just don't think I can get from there to a
finished design. Does anybody have a pair of these already set up that
I could buy and take a look at for ideas, or a more detailed set of
plans? Thanks in advance for any help.

-Nathan Odle, KB0NNV
c670064@showme.missouri.edu
http://www.missouri.edu/~c670064/

4010. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: Jim Odle <jimodle@infowest.com>
Message-ID: <31CC65D1.4748@showme.missouri.edu>
Source record: 104440
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

Gary Coffman wrote:
> The "standard" way to start out on 10 GHz has been with a pair of
> Gunnplexers. The cheap motion detector types (about $20) will work,
> though the Microwave Associates units are better. Advanced Receiver
> Research sells complete MA units, though they're a bit expensive
> (over $300 each). The major difference between the MA type and the
> motion detectors is that the former have a separate modulator varactor
> diode while the latter have to be modulated by varying the Gunn
> diode current. This allows the MA types to handle wider bandwidth
> modulations, such as video or high bandwidth data, while restricting
> the motion detector types to just voice or lower bandwidth data.

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Yes, this is almost exactly what I have in mind. However, I don't have
any experience putting something like this together. I understand the
theory in practice here, I just don't think I can get from there to a
finished design. Does anybody have a pair of these already set up that
I could buy and take a look at for ideas, or a more detailed set of
plans? Thanks in advance for any help.

-Nathan Odle, KB0NNV
c670064@showme.missouri.edu
http://www.missouri.edu/~c670064/

4011. Re: Mic Radio Matching Query

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: taylors@smartt.com
Message-ID: <4qi11c$s3o@ktk2.smartt.com>
Source record: 104441

NJC@WARWICK.NET (Nick J Chiarchiaro, AET / N2QXF) wrote:

>Hi name her is Nick and I hope you can help.

>If you have a radio, any radio, that has a 600ohm mic input and you
>want to feed it with a mic element that is of a different resistance.
>How would you suggest going abt it?

>The reason I ask is I have a Shure hand mic that the element seems to
>be around 15k ohm. I want to match it to a radio here that requires
>abt 600ohms. I can't seem to locate a matching transformer for
>15k-600.

>Is there any other way to do this?

>Any help would be appreciated.

>Tnx and 73
>Nick
>N2QXF

You could use a transistor emitter follower or FET source follower to
match high Z to low Z....
--
Jim E-Mail: taylors@smartt.com

4012. Re: HF Emergency - An Ex

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <31CCBF5F.7407@rrgroup.com>
Source record: 104442

William W Janssen wrote:
>
> jim.hammock@tclbbs.com (Jim Hammock) wrote:
> >B ->snip etc
> >
> > Not the power outage beyond scared people loading up the system. See
> >my explaination below.
> >
> > >...snip snip etc
> >
> > No, that's the problem, the local authorities don't have a priority
> >or flash overide system. That's why alternate means of communication are
> >needed. If they could override non-urgent calls in a disater then things
> >would get done. (Including making a lot of disconnected callers mad.)
> >Some of the federal (closed) systems and military (closed) systems have
> >that capability. (By closed I mean not accessable to the public.)
> >
> snip snip etc
> >
> > Jim KE4EDT/AA
> >
> >
>
> Interesting. I haven't been involved with this in a few years but
> the telcos DID have a different class of service for fire, police etc.
>
> They didn't bump existing calls but did get preference when making
> a call as I remember. Pending calls were put in a queue and there were
> different queues for different classes of service.(I Think).
> I had no reason to get into the details of how it was done.
>

Yes, the cellular carriers have such a system. There is a 16-bit number
in your cellphone's memory, transmitted to the cell site when you make a
call, called your "priority code" or something - I don't have the documentation
with me. For "normal" phones, this is usually the last digit of your
MIN (your "phone number") the other possibilities, A-F are reserved for
other things, including the military, emergency services workers, etc.

The only problem with this is, the cellular operators have AFAIK never
used this feature to deny access to low-priority phones during an emergency.

73 de KB9JTT
aka Badger 323 - Civil Air Patrol

4013. Homebrew Minature VHF Reciever For Use With Car Alarm?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: Nathan Odle <c670064@showme.missouri.edu>
Message-ID: <31CC9CE3.F25@showme.missouri.edu>
Source record: 104443

I posted a question about homebrew microwave equipment a short while back, and now here's *another* question regarding *another* project I've got going. What I have in mind here is a voice pager that one could hook up to a car alarm, using ham gear. Here's what I would do: have a circuit in the car (this is the easy part) that would watch the siren circuit, and if activated, do the following: close my mobile's PTT switch, play a short "Your alarm is going off" type of message with proper ID off of a voice chip similar to what Radio Shaft sells, and repeat for a specified time interval or until the alarm is disarmed. That part isn't too hard at all, but it's the actual reciever a person would have to carry with them that would be the tricky for me. What I'd ideally like to have is a miniature VHF reciever that would be tuned to wherever in the 2M band the bandplan allows for this kind of stuff. It would include built-in squelch and a mute button, and would fit into a standard pager case. Given the tools and construction techniques the homebrewer has (i.e. no teeny surface-mount techniques), is this possible? If it is, can someone point me to a kit or design that would work for this kind of thing? Even a miniature reciever ready-built that I could add the mute function to and repackage, and retune if necessary, would be fine. Thanks in advance for any help.

-Nathan Odle, KB0NNV
c670064@showme.missouri.edu
http://www.missouri.edu/~c670064/

4014. Home brew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: Ken Keslar <k.keslar@worldnet.att.net>
Message-ID: <4qffc3$fs9@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104527

Hi all.

i was wondering if anyone had plans for a 2 meter FM rig and/or a 70cm
rig and/or a 6 meter rig.

if you do could you please e-mail them to me at
k.keslar@worldnet.att.net
thanks in advance.

73,

DE KB2WKW
Kenny

4015. Tube CW TX circuit, Xformer and tube socket request

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-22 00:00:00 UTC
From: cfb@bga.com
Message-ID: <4qfok3$ddk@news3.realtime.net>
Source record: 104528
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.tubes

As my questions seem to smear across the subjects of radio, ham and tubes, I hope you'll all grant me the licence to cross post this article to the three groups. If not, I apologise in advance for my error.

I have a 50W CW TX design based on the 6LR8 TV sweep tube. This is a combination triode oscillator and tetrode amplifier. The oscillator plate output is fed to the tetrode control grid via a capacitor.

The Morse is transmitted by having the Morse key in series with the cathode-ground circuit of the tetrode (with a low value capacitor across the key in order to declick it). The anode goes to B+ via a choke with the RF going also from the anode to a pi filter/resonator (and thence to the antenna). The advantage of this keying approach is that the triode oscillator is left running without interference and thus is quite stable.

I am not sure of the impedance of the tetrode under open key conditions, but I bet you'll get a really good kick if your finger finds its way between the open Morse key contacts (the B+ is between 200V and 400V).

I have never looked at a Morse key closely before. Are they designed to keep the HT safely away from the user, or is this an accident waiting to happen? BTW, the circuit will be isolated from the mains with a transformer (see below), so there's no chance of the user grounding the HT. Thus, it will be fine if the key body is at the chassis's ground potential.

Regarding the transformer - I need one with a primary of 110V and either a 300V CT to 400V CT secondary OR a 150V to 200V secondary without CT. It must be able to deliver 200mA. A separate 6.3V CT > 1A winding will be nice, but not essential.

I have looked in the Antique Electronic Supply catalog (very expensive) and Fair Radio sales catalog (they don't have quite what I need). In addition, I have looked in All Electronics, MECI, JDR, Parts Express and Digikey catalogs. They don't have transformers with this kind of rating. Does anyone here know where I might find such a device, but less than the $50 or so AES is asking?

Finally, to the tube socket - I have asked this question on the homebrew group, but I am repeating it here because of the cross posting to the other two groups.

The 6LR8 is a 9 pin Novar based tube. I have looked for a matching 9 pin Novar socket in the catalogs listed above, but to no avail. Does anyone know where I might find one of these?

Again, if I have erred in judgement cross posting this article, I apologise,

Cheers,

Chris (cfb@bga.com)

4016. Re: Hold function for RS freq counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: drstout@cencom.net
Message-ID: <N.062296.212140.90@cencom.net>
Source record: 104444
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew
Body handling: Inline uuencoded payload not displayed: countr.mod

On 6/20/96 7:16AM, in message <4qbff4$bgg@freenet-news.carleton.ca>, Mark Boyer <ag368@FreeNet.Carleton.CA> wrote:

>
> Could someone please repost the mod. I thought I had my screen capture
> enabled and when I went back to re-read the file I could no longer find
> the article in the newsgroup.
>
> thanks much.
>
> --
> Mark Boyer VE3MJB ag368@freenet.carleton.ca
> mboyer@cyberus.ca
>
> If diamonds are a girls best friend, then gravity must be her worst enemy!

Mark,
Here is that post. I use it all the time.
DRS
AKA:KE4HVD

[Inline uuencoded payload not displayed: countr.mod]

4017. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jun23.011455.23632@ke4zv.atl.ga.us>
Source record: 104445
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.misc

In article <4qgmki$2gjs@info4.rus.uni-stuttgart.de>
moritz@ipers1.e-technik.uni-stuttgart.de () writes:
>As a matter of curiosity, Is there a hope to find a QSO-partner
>on 10GHz WBFM? When I finished my WBFM TRX 10 years
>ago, it turned out that everyone else here had moved to SSB.

The only thing I've found that works is to build them in pairs,
then loan one of them to another amateur.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4018. VLF

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: drranu@holly.ACNS.ColoState.EDU
Message-ID: <4qid2g$eg4@yuma.ACNS.ColoState.EDU>
Source record: 104446

I posted a week or two ago looking for a schematic for a simple
VLF receiver. Many responded, one (two really) emailed me the
McGreevy VLF Receiver schematic. I built it and it works! I
have heard so far "tweeks" and popping from lightning.
I first built it on a breadboard, but there was a lot of feedback
and other noises, so I threw it on perfboard and then mounted it
in an aluminum box. That got rid of all the problems.

If anyone else is looking for a VLF receiver design, check
Dejanews (http://www.dejanews.com) for McGreevy, or email
me and I will email the plans to you.

Thanks everyone!

--
-Emarit Ranu, KG0CQ 73's drranu@holly.ColoState.EDU
Electrical Engineering Colorado State University
All generalizations are bad. Censorship: #######
_·_ __· _____ _·_· __·_

4019. amplifier, microwave

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: angel vilaseca <100604.1242@CompuServe.COM>
Message-ID: <4qj2kmlhh1@mhade.production.compuserve.com>
Source record: 104447
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

I want to buy a 10 GHz travelling tube amplifier.

4020. microwave amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: angel vilaseca <100604.1242@CompuServe.COM>
Message-ID: <4qj2uelhh2@mhade.production.compuserve.com>
Source record: 104448
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap,sci.electronics.equipment

Want to buy a 10 GHz Travelling wave tube amplifier.

4021. WANTED: Amiga HAM Radio Software

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: davidm@hous.inmet.com
Message-ID: <DtG3s2.6wo.0.-s@inmet.camb.inmet.com>
Source record: 104449

All:

I am looking for Amiga HAM radio software. If you
know of any let me know.

David

4022. Re: Desoldering Guide

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: Nigel Cook <diverse@tcp.co.uk>
Message-ID: <4qjj1r$l51@zeus.tcp.co.uk>
Source record: 104450
Cross-posted to: sci.electronics.repair,sci.electronics.design,rec.radio.amateur.homebrew

> NOTES ON DESOLDERING
>
> Michael Covington, N4TMI
> mcovingt@ai.uga.edu
>
> YOUR COMMENTS ARE INVITED!
>
> I would like to hear from anyone who has experiences to share.
> I would especially like to know more about:
> - heated Soldapullt-like devices;
> - vacuum desoldering stations (Hakko, Pace, etc.)
> neither of which I have ever had the opportunity to try.
>
> WHICH TECHNIQUE IS BEST? I use the hot air gun for ICs with 16 pins or
> more, the Soldapullt for smaller devices.
>
>
> 1. INTRODUCTION
>
> These notes are based on a series of tests that I conducted to try to
> find the best way to desolder ICs from 4-layer computer PC boards. This
> is the most difficult desoldering task that I routinely face.
>
>
> 2. THE TIME FACTOR
>
> Desoldering can take time. Removing a 40-pin IC neatly with copper
> braid can take 30 minutes. That's over $50 worth of technician time,
> counting overhead costs. Now you know why most people don't repair
> computers at the component level.
>
> Removing the same IC with the hot-air-gun technique described below
> takes less than 1 minute, plus another few minutes to clean up the holes
> with copper braid. Other techniques take intermediate amounts of time.
>
>
> 3. SHORTCUTS
>
> I am assuming you want to preserve both the board and the IC. If you
> know the IC is bad, you can crush it, clip off all its pins, and then
> remove the pins one by one. If you want the ICs but not the board, you
> can heat the board in various unorthodox ways (propane torches have been
> mentioned) until the solder melts.

>
>
> 4. UNBEND THE PINS FIRST!
>
> Regardless of what technique you're going to use, you should unbend any
> crimped IC pins before trying to pull the IC out. You can often do this
> with a tiny screwdriver before desoldering. Sometimes you must remove
> some of the solder before the pins can be straightened.
>
>
> 5. FREE UP THE PINS BEFORE PULLING!
>
> After you have removed the solder from a joint by any of various
> methods, grip the pin and wiggle it with pliers to break it loose of any
> tiny amount of solder that may still be holding it to one side of the
> hole. Always do this before trying to pull the IC out of the hole.
>
>
> 6. COPPER BRAID
>
> Although rather slow if used by itself, copper braid is an indispensable
> desoldering tool because of its almost magical ability to pull solder
> out of holes by capillary action. It's especially handy for cleaning up
> the solder left behind by other techniques.
>
> Method:
>
> a. Heat iron to 750 F. Insert small tip (end of tip roughly same
> diameter as hole in circuit board).
>
> b. Place the board flat on the workbench, solder side up.
>
> c. Swab some extra flux on the joint to be unsoldered. (The copper
> braid contains some flux that _may_ be adequate.)
>
> d. Lay down a piece of copper braid on the joint and apply the soldering
> iron to it.
>
> e. Inspect your work. With a single-sided board, you may be done.
> With a multilayer board, you may have to attack each joint as many
> as five times, using fresh copper braid each time.
>
> Common faults:
>
> a. The copper braid should not be spread out; it should be tightly
> bunched together. It comes in various widths; match the width to
> the joint if possible.
>
> Handy hints:
>

> a. You can do several IC pins in rapid succession by laying down a piece
> of copper braid along them.
>
> b. Trim off the used end of the copper braid before using a fresh spot
> on it; that way you don't have as much metal to draw heat away.
>
>
> 7. VACUUM TRIGGER PUMP ("SOLDAPULLT")
>
> This technique is faster than copper braid and works very well.
>
> Method:
>
> a. Heat iron to 750 F. Insert small tip (end of tip roughly same
> diameter as hole in circuit board).
>
> b. Lay board flat on the workbench, solder side up.
>
> c. Quickly re-melt each of the joints and add a small amount of solder
> to it. This adds some much-needed flux; it also ensures that you
> have melted through any protective coating on the surface that would
> otherwise interfere with heat transfer.
>
> d. Apply the soldering iron to the joint. As soon as it melts, move the
> tip of the iron to the edge of the joint and put the Soldapullt in
> place.
>
> e. Count five seconds (to ensure melting all the way through the layers)
> and press the trigger.
>
> f. If the pin is adhering to one side of the hole, free it with the
> tip of the soldering iron or with pliers.
>
> Common faults:
>
> a. Don't be shy about letting the tip of the Soldapullt touch the tip
> of the soldering iron. It's unavoidable, and so long as the area of
> contact is not large, it doesn't do any harm.
>
> b. Make sure the Soldapullt is in good condition. Cock it, put your
> finger over the end, and press the trigger. The plunger should _not_
> go right up. Ideally, it should stop about halfway up, or at least
> pause. If it doesn't, you probably need a new O-ring (available at
> any hardware store).
>
> c. Be sure to allow 5 seconds after the joint appears to be melted,
> before pressing the trigger.
>
>
> 8. HOT AIR GUN

>
> This technique is not widely known but works very well and is quick.
> I stumbled on it myself and have heard from others who use it. It is my
> preferred technique when more than 16 pins need to be undone.
>
> Method:
>
> a. Mount the circuit board vertically in a vise so you can get to both
> sides of it.
>
> b. Attach an IC puller (with rubber band around it for tension) to
> the IC to be removed.
>
> c. Use a 1200-watt heat gun with a 1/2-inch orifice. Hold the heat gun
> 1/2 inch from the solder side of the board, sweeping the air stream
> from one end of the IC to the other. Heat for 30 seconds.
>
> d. Pull the IC out.
>
> e. Clean up the holes with copper braid if a new IC is to be installed.
>
> Precautions:
>
> a. Do not put a smaller nozzle on a hot-air gun than the manufacturer
> recommends. Nozzles smaller than 1/2 inch require thermostatic heat
> control to prevent overheating.
>
> b. Do not heat longer than necessary.
>
> c. Do not bend the board while it is hot; or if you do, straighten it
> while it is still hot (unless you like bent boards!).
>
> d. Be alert for other small components that may come loose when the
> solder is melted. Be alert for droplets of solder that may
> occasionally be blown through to the component side.
>
> Does the IC get too hot? Apparently not:
>
> - Many ICs come out with some of the solder, higher up on their pins,
> still unmelted; that tells me they did not get as hot during
> desoldering as during original installation.
>
> - My tests have shown that the IC case temperature never reaches 100
> C; since ICs are rated to work at 80 C, that seems acceptable.
>
> - ICs are rated to have 330 C on each pin for 10 seconds during
> installation; with my technique, the pins probably never get that
> hot, because solder melts at 200 C and the IC is removed as soon as
> that happens.
>

> - Paper labels on the board, even right under the IC, are not
> scorched.
>
>
> 9. VACUUM BULB DESOLDERING IRON
>
> Although a real time-saver with single-sided board, my vacuum-bulb iron
> (Weller DS-40) just doesn't seem to be up to the task with multilayer
> boards unless supplemented by other methods, such as copper braid.
>
> The main challenges are:
>
> - Heat transfer is difficult. Make sure the tip is well matched to the
> size of the pad on the PC board and is clean (inside and out) and well
> tinned.
>
> - PC board traces tend to lift during the prolonged heating that is
> necessary.
>
> Actually, this may indicate that the DS-40 is running too cool. (It's
> easier to overheat a board with an iron that is too cool than with one
> that is too hot.) I may try raising its working temperature with a
> Variac and see what happens.
>
>
> 10. MORE INFORMATION WELCOME HERE!
>
>
>
> --
> Michael A. Covington http://www.ai.uga.edu/faculty/covington/
> Artificial Intelligence Center <><
> The University of Georgia Unless specifically indicated, I am
> Athens, GA 30602-7415 U.S.A. not speaking for the University.

4023. Re: amplifier, microwave

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4qjmf9$a7j@news.calweb.com>
Source record: 104451
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Better tell us how much power you need from the amplifier.
I have a little two watt unit but I suspect you want more.

Bill K7NOM

4024. VHF Communications Magazine

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: Michael J Wooding <g6iqm@g6iqm.demon.co.uk>
Message-ID: <xAFPpMAG8WzxEwCw@g6iqm.demon.co.uk>
Source record: 104452

Hi All,

For those of you who already subscribe to VHF Communications and to
anyone who may be interested, issue 2/1996 of the magazine will be
shipped Monday June 24th,

For information on the contents of this issue or for any other info
regarding the magazine please take a look at our WWW sites.

UK: http://www.eolas.co.uk/ag/vhfcomm.htm
USA: http://www.clearlight.com/~vhfcomm

Regards ... Mike

--
Michael J Wooding G6IQM email: vhf-comm@g6iqm.demon.co.uk
http://www.eolas.co.uk/ag/vhfcomm.htm & http://www.clearlight.co./~vhfcomm
KM Publications, 5 Ware Orchard, Barby, Nr.Rugby, CV23 8UF, UK
Tel: (0)1788 890365 Fax: (0)1788 891883
VHF Communications Magazine - Especially covering VHF, UHF and Microwaves

4025. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: traveler@cyberway.net
Message-ID: <31CD79E0.4A92@cyberway.net>
Source record: 104453

Mark Schoonover - KA6WKE wrote:

> I'm looking for a CB that would be relatively easy to convert to
> 10m FM. I have the usual equipment, etc. This would be my first
> attempt and I don't know much about the different CB gear available.

I have used all three on 10 FM, converted CB's convert commercial rigs, and radios designed for 10FM. Converted CB's are the worse & a waste of a good radio.

Go get a old Mortac or Mastr Pro & use that. CB's have poor IF sections & low power. Leave the CB on it's intended freqs where it canbe of good use.

4026. Re: Homebrew Pagers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: traveler@cyberway.net
Message-ID: <31CD7B4A.483D@cyberway.net>
Source record: 104454

Tyler Gunn wrote:
>
> Hello everyone, I'm interested in making a homebrew pager that I would
> operate on an amateur band. I'm wondering if anyone out there has ever
> attempted this? That or is it possible to modify a standard pager to
> receive it's signal in an amateur band and then to build a transmitter

People take commercial pagers & convert them too amateur freqs all
the time. If you need a paging encoder for the transmitter then
talk to Kantronics for Digital format & Communications Specialists for
analog.

4027. Re: Homebrew Pagers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: tmahanna@ix.netcom.com
Message-ID: <4qkgls$nf6@dfw-ixnews2.ix.netcom.com>
Source record: 104455

In <31CD7B4A.483D@cyberway.net> traveler@cyberway.net writes:
>
>Tyler Gunn wrote:
>>
>> Hello everyone, I'm interested in making a homebrew pager that I
would
>> operate on an amateur band. I'm wondering if anyone out there has
ever
>> attempted this? That or is it possible to modify a standard pager
to
>> receive it's signal in an amateur band and then to build a
transmitter
>
>People take commercial pagers & convert them too amateur freqs all
>the time. If you need a paging encoder for the transmitter then
>talk to Kantronics for Digital format & Communications Specialists for

>analog.

Where could we all get some info on this? Good question!

-Tom

4028. Re: Desoldering Guide

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-23 00:00:00 UTC
From: Mike Moran <mmoran@cts1.internetwis.com>
Message-ID: <31CDF919.704C@cts1.internetwis.com>
Source record: 104456
Cross-posted to: sci.electronics.repair,sci.electronics.design,rec.radio.amateur.homebrew

NIGEL:

I've been using the Denon SC-7000 for about a year and I'm very, very happy with it. Having continuous vacuum in a self-contained handheld tool is a true sanity-saver for field service and it saves room on the bench. IMHO, continuous vacuum is more than worth the price.

MIKE

4029. Re: Toshiba 2SC3810

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: woody.white@worldnet.att.net
Message-ID: <4qkik3$856@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104457
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

sansoni@mbox.vol.it (Guido Sansoni) wrote:

>Hallo,
>there is someone who can tell me an equivalent of 2SC3810 NPN
>transistor made by Toshiba?
>It is a final of three mounted on a power supply 13,8 volts 30 A
>(Daiwa model PS30Xm II)
>Many tanks

I can not find this in my cross-reference material. You might
be able to use a 2N5302. This is an NPN, 100wt., 30A., transistor
in a TO-3 (metal, diamond shape) package.
Gud luk!

de Woody (WB4QXE) - woody.white@worldnet.att.net

Electron Microscopist/Microanalysist,
Ham radio "homebrewer", shade tree mechanic,
'90 Nissan 240SX, wish still had my Mcycle too!

4030. How do I determine the permeabilty of an unknow ferrite core?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: tmahanna@ix.netcom.com
Message-ID: <4qlbpf$t1v@dfw-ixnews5.ix.netcom.com>
Source record: 104458

Is there some quick and dirty method to do so, using a generator and a couple of windings? Or is there a chart of colors/marks that would identify them. I have a drawer full of ferrites scrouged out of old equiptment that I would like to use.

-Tom

4031. 6M/2M dual band antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: mack@MAILS.IMED.COM
Message-ID: <9605248356.AA835631733@mails.imed.com>
Source record: 104459

Earl Needham in Clovis, NM asked about a combo 6M/2M mobile antenna.

Earl:
There is a commercially available dual band antenna from
Hustler. They just don't know they have a dual band antenna!!!
Buy a regular Hustler SF-2 2M 5/8 antenna. This antenna is
electrically 3/4 wavelength when you add in the loading coil at the
bottom. If you divide 150 MHz (close enough!) by 3 you get 50MHz.
Another way of saying that electrically this antenna is 1/4 at 6M and
3/4 at 2M. It is a little short on 6, but it *DOES* work. The only
down side is that it is vertically polarized. It *does* cost you a
little on 6M SSB but a halo is a lot more trouble and probably not
much better. No problem for 6M FM though.

All you need is a regular 3/8-24 threaded mount for a mount. *Any* CB
3/8-24 mount (or amateur mount) will work. The diplexor is just a
matter of designing a combo low pass/high pass filter and putting it
into a box. Due to the closeness of the bands, it may be a little
tricky to get working, but not terribly difficult. There was an
article in one of the Ham magazines in the past 3-4 years and I can't
remember which one that gave a diplexor schematic and construction for
a 146/432 diplexor. It would give you an idea of how to do one for
6M/2M. Hopefully, someone on the list has a better memory than me. I
think it was either 73 magazine or CQ.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

4032. Re: Ham-Homebrew Digest V96 #279

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: hts@thor.NET
Message-ID: <199606241551.KAA24795@odin.thor.net>
Source record: 104460

DO NOT SEND US ANY MESSAGE PLEASE.

4033. help

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: gzluhuih@public1.guangzhou.gd.CN
Message-ID: <31CEB74F.6B56@public1.guangzhou.gd.cn>
Source record: 104461

hi de bd7ix(name Lu Hui-Hua) from P.R.CHINA, i want to made a
baycom modem use tcm3105 chip, but i can not find it in my country,
who can help me? thanks .
73!
bd7ix: Lu Hui-Hua

4034. Re: How do I determine the permeabilty of an unknow ferrite core?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: jpotter@jpaw.com
Message-ID: <31cebaa6.2632825@news.santafe.edu>
Source record: 104462

tmahanna@ix.netcom.com(Thomas R Mahanna) wrote:

>Is there some quick and dirty method to do so, using a generator and a
>couple of windings? Or is there a chart of colors/marks that would
>identify them. I have a drawer full of ferrites scrouged out of old
>equiptment that I would like to use.
>
>-Tom
>
Easiest way is to wind some turns on the core and measure the
inductance.

For a toroid the inductance is
mu * N-squared*Cros-sectional-area/length
The units are MKS - meters and meters-squared.
mu-nought is 4 * pi * 10^-7

If you can't measue the inductance directly, add a capacitor and make
it resonate. Use a scope and signal generator to determine the
resonant frequency.

It may take some experiemntation to home in on the value since cores
can be lossy at high frequencies. You may need to experiment with the
number of turns and resonating capacitor.

Also, note that this is a small signal measurement. The actual
effective mu is a function of the signal level and dc bias.

73 de K9GXC, Jim

James M. Potter, President TEL: (505) 662-5804
JP Accelerator Works, Inc. FAX: (505) 662-5210
2245 47th Street EMAIL: jpotter@jpaw.com
Los Alamos, NM 87544-1604 URL: http://www.jpaw.com/jpaw/

4035. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9605248356.AA835637570@mail.creo.bc.ca>
Source record: 104463

Jim Odle wrote:

> Gary Coffman wrote:
>> The "standard" way to start out on 10 GHz has been with a pair of
>> Gunnplexers. The cheap motion detector types (about $20) will
>> work, though the Microwave Associates units are better...

> (snip snip snip...)

> Yes, this is almost exactly what I have in mind. However, I don't
> have any experience putting something like this together. I
> understand the theory in practice here, I just don't think I can get
> from there to a finished design. Does anybody have a pair of these
> already set up that I could buy and take a look at for ideas, or a
> more detailed set of plans? Thanks in advance for any help.

I picked up a couple of X band motion detector Gunns at a swapmeet in the spring and had no difficulty retuning them to our band. If you have nothing else available, you can use the old technique of measuring the wavelength by reflecting RF back into the feedhorn and observing mixer diode current. There is a good writeup in the RSGB book _Practical Transmitters for Novices_ that discusses this - and lots more, like how to build a simple modulator around a 7805. I'm using FM radios for IF rigs, tacked together an IF preamp and am dangerously close to being on 10 GHz WBFM. My budget for two stations (you have to build two to have somebody to talk to) was $CDN100. I'm coming in well under that.

Try the RSGB Microwave Handbook (volume 3). There is also a brief writeup on the subject in the ARRL UHF/Microwave Projects book.

Just in case anybody asks - the IF preamp uses a MAR6 and a MAR3 in a 50 ohm microstripline circuit, laid out with a felt pen, scotch tape, and guesswork. The coupling capacitors are 1 nF chip capacitors, and a 78M08 handles the power. In lieu of rivets or plated-through holes I drilled lots of holes in the board and soldered wires through to the ground plane. Most of the decoupling capacitors are 1 nF and .1 uF chip capacitors (use lots!); I salvaged some tantalum electrolytics from a junk cellphone to babysit the voltage regulator.

Don't let people try to tell you that WBFM is completely passe. After you play with voice, why not try ATV? Or data? These things are really really really simple to use. Don't be afraid!

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir

Locator: CN89mg en tout." - C. Deneuve

4036. Re: Mic Radio Matching Query

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: frank.dinger@zetnet.co.uk
Message-ID: <4qmtk6$rva@roch.zetnet.co.uk>
Source record: 104464

> Hi name her is Nick and I hope you can help.

> If you have a radio, any radio, that has a 600ohm mic input and you
> want to feed it with a mic element that is of a different resistance.
> How would you suggest going abt it?

> The reason I ask is I have a Shure hand mic that the element seems to
> be around 15k ohm. I want to match it to a radio here that requires
> abt 600ohms. I can't seem to locate a matching transformer for
> 15k-600.

> Is there any other way to do this?

> Any help would be appreciated.

> Tnx and 73
> Nick
> N2QXF

==========response GM0CSZ / KN6WH

Nick , If your Shure mike is a dynamic type it is likely 500-1000 Ohms.
When the label says it is 15k Ohm ,it could be there is a transformer
inside the microphone housing. If that's the case , just bypass that
transformer and you are in business . Good Luck !
73,Frank Inver by Tain , Ross-shire IV20 1RX - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4037. Good quadrature oscillator design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: akent@bga.com
Message-ID: <4qn4f7$ljq@news3.realtime.net>
Source record: 104465

I am looking for an accurate quadrature oscillator design. Anyone know
of one that will give an accurate (<1%) and stable sin/cos phase at
<100mhz frequencies?

Thanks
Kent

4038. Re: How do I determine the permeabilty of an unknow ferrite core?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: Madjid VE2GMI <orion@odyssee.net>
Message-ID: <31CF3681.4EAF@odyssee.net>
Source record: 104466

Thomas R Mahanna wrote:
>
> Is there some quick and dirty method to do so, using a generator and a
> couple of windings? Or is there a chart of colors/marks that would
> identify them. I have a drawer full of ferrites scrouged out of old
> equiptment that I would like to use.

You can wind a few turns and measure the L but too complicated
if you don't have the equipment.

Check this site for toroid info and how to recognize them :)
http://zeus.cedcc.psu.edu/ind/toroid.html

Madjid BOUKRI, VE2GMI Internet: orion@odyssee.net
Antenna simulation program NEC4WIN found at:
http://www.coast.net/SimTel/SimTel/win3/hamradio/nec4w15.zip

4039. 10khz to 100khz broadband quadrature generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: akent@bga.com
Message-ID: <4qn4m1$ljq@news3.realtime.net>
Source record: 104467

Is there a good low frequency (10 to 100khz) broadband quadrature generator? I need to accurately shift a variable frequency by 90 degrees.

Thank you.
Kent

4040. Re: Help need chip data

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: zac@galaxy.nsc.com
Message-ID: <DtJ049.7DI@voder.nsc.com>
Source record: 104468

Common Anode is the way to go! All you have to do is provide a path to ground to light the LEDs. Common cathode sucks, for large LED displays, because the chip has to DRIVE the LEDs. i.e. It has to have enough voltage to turn on the string of LEDs that make up one segment of the display.

Zachrey Helmberger
Amplifier Design Engineer 408-721-6020 zac@galaxy.nsc.com
National Semiconductor Corporation
Data sheets at http://www.national.com/ my opinions are MINE!

4041. Re: Good quadrature oscillator design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: stevem@best.com
Message-ID: <4qn97b$hv2@shellx.best.com>
Source record: 104469

In article <4qn4f7$ljq@news3.realtime.net>,
Kent Farnsworth <akent@bga.com> wrote:
>I am looking for an accurate quadrature oscillator design. Anyone know
>of one that will give an accurate (<1%) and stable sin/cos phase at
><100mhz frequencies?
>
>Thanks
>Kent
>
>

I've seen this done at low frequencies with a pair of TTL Flip Flops
driven at twice the desired output frequency. You might be able
to do the same thing with ECL Flip Flops. I'm not sure if it would
work within your 1% tolerance though.

Steve Muther WF6R

4042. Re: VSWR meter for UHF bands Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: John M Domblewski <wendysue@global2000.net>
Message-ID: <31CF4E6A.56B1@global2000.net>
Source record: 104470

David Peter Cureton wrote:
>
> Hi,
> I'm looking for a scematic for a VSWR meter that will work into
> the uhf bands up to 500Mhz. Most designs I have found only extend to the
> 30Mhz barrier. I have been thinking of modifying the directional coupler
> of the tandem match directional wattmeter outlined in the ARRL handbook
> but are unsure if transformers in this design would work very well at
> such a high frequency.
>
> How accurate are the VSWR meters that are made of simple stripline
> construction?
>
> Ultimatly I would like a meter that covers the 2 meter band as well as the
> UHF CB band a bit below 500Mhz.
>
> Thanks in advance
>
> '73 de David
>
> Email me on Cureton@minyos.rmit.edu.au, I will post results to the
> newsgroup

Bird watt meter!!!!!!!!!!

John

4043. Re: Cell Phones as 23cm HAM Radios??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-24 00:00:00 UTC
From: lyndon@ve7tcp.ampr.org
Message-ID: <4qnnnd$oim@ve7tcp.ampr.org>
Source record: 104471

emeb@indirect.com (Eric M. Brombaugh) writes:

>In article <31BDAE61.6AD9@bnr.ca>, Gabe Nemeth <gabe@bnr.ca> wrote:

>I would be _really_ surprised if this is possible. To meet the requirements
>of the cellular system, the phones need to receive in one frequency range and
>transmit in another, similar to the way cordless phones work. There are no
>advantages (and some disadvantages) to designing the Rx/Tx circuits to
>operate up above the current highest frequency of ~896 MHz.

The Novatel ARC (Calgary) modified a batch of trunk-mount cell
phones for 9600 bps packet operation in the 902 MHz band. The
split freq. stuff was a godsend. Can you say "digital repeater?" :-)

The mods were not trivial. They rewrote the PROM code to do onboard
KISS, added a new computer interface, and wobbled the RF decks to
slide up to the proper frequency range. Fortunately, the mods
were done by the same gang that designed the radios in the first
place :-)

There aren't too many of these radio kicking around. I have a pair
sitting in the basement. A network of two isn't much fun :-(

--lyndon
--

Putting the ETHER back in ETHERnet!

4044. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <31D002FE.132@arrl.org>
Source record: 104380

> Laura Halliday VE7LDH lhalliday@creo.bc.CA wrote:

> Don't let people try to tell you that WBFM is completely passe. After
> you play with voice, why not try ATV? Or data? These things are really
> really really simple to use. Don't be afraid!
> I agree--these things are probably a good first step to high data
rate communications. If nothing else, playing around with voice
can teach you about finding LOS paths--no trivial matter unless you
have distinctive landmarks or a manadnock type mountain (big peak
that sticks out like a sore thumb).

You might even experiment with cheap varactor diodes--I don't think
you need to use expensive devices packaged for waveguide installation.
Why not have a piece of circuit board across the guide which you can
solder ordinary parts to? Are there cheap diodes that work well
as X band varactors? Green LEDs?

Zack KH6CP/1 8 states on 10 GHz
zlau@arrl.org

4045. Re: 6M/2M dual band antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: Chris Boone <cboone@earthlink.net>
Message-ID: <31D02866.16B@earthlink.net>
Source record: 104381

mack@MAILS.IMED.COM wrote:
>
> Earl Needham in Clovis, NM asked about a combo 6M/2M mobile antenna.
>
> Earl:
> There is a commercially available dual band antenna from
> Hustler. They just don't know they have a dual band antenna!!!
> Buy a regular Hustler SF-2 2M 5/8 antenna. This antenna is
> electrically 3/4 wavelength when you add in the loading coil at the
> bottom. If you divide 150 MHz (close enough!) by 3 you get 50MHz.
> Another way of saying that electrically this antenna is 1/4 at 6M and
> 3/4 at 2M. It is a little short on 6, but it *DOES* work. The only
> down side is that it is vertically polarized. It *does* cost you a
> little on 6M SSB but a halo is a lot more trouble and probably not
> much better. No problem for 6M FM though.
>
> Ray Mack
> WD5IFS
> mack@mails.imed.com
> Friendswood (Houston), TXActually ANY 2mtr 5/8wave antenna will load as a 1/4wave on 6..I
find the
Signals NMO 150 antenna and the Larsen NMO on 2mtrs both work quite well
on 6 mtrs...

And if the band is open, a mobile on vertical doesnt have any
problems...locally it can hurt though....

73
Chris
WB5ITT

4046. Re: 10khz to 100khz broadband quadrature generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: "Timothy Ressel", Non, HP, Unkn <tressel@metro.sr.hp.com>
Message-ID: <4qpk2g$nmb@canyon.sr.hp.com>
Source record: 104382

Kent Farnsworth writes:

> Is there a good low frequency (10 to 100khz) broadband quadrature
> generator? I need to accurately shift a variable frequency by 90
> degrees.
>
> Thank you.
> Kent
>
>
For <=100KHz, you can use walking-ring counters as sine wave generators, and drive them with flip flops which are clocking on opposite edges of a master clock. Check out Don Lancaster's CMOS COOKBOOK for ideas.

--Timster

4047. Swap: PIC16xx for 'HC705J

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.6.25.17.1.30.2443217854.2958012@hcol.humberc.on.ca>
Source record: 104383

Want to swap my Microchip Picstart 16B developement kit for
a Motorola 68HC705J1A (or possibly a J2) developement kit
or will consider buying it outright.
The Picstart 16B is as new in the box, only used a couple of times.

Please e-mail:
hduff@hcol.humberc.on.ca

Thanks...
Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

4048. Looking for Schurr key

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: landlord1@aol.com
Message-ID: <4qpvvn$r62@newsbf02.news.aol.com>
Source record: 104384

Please forgive me if I am posting this in an inappropriate area, but I am unfamiliar with radio. My neighbor has asked me to help him locate a Schurr Iambic Paddle, and form the newsgroup descriptions, this appeared to be a place to ask for help in locating such a device. If anybody can steer me in the direction of one, please respond via e-mail to Landlord1@aol.com.
Thank you for your help and indulgence.

4049. Re: Novar 9 Pin Sockets for 6LR8 based CW Xmitter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: Jim Strohm <jstrohm@texas.net>
Message-ID: <31D06D74.2E3F@texas.net>
Source record: 104385

I saw that you put a note on the local *.forsale newsgroup
offering to pick up orphan (dead) TVs.

I think this is a fine example of the ham ability to
scrounge good stuff for next to free, and should
be applauded by everybody who reads this group.
More of us need to recycle good stuff like you're doing.

You've done the right thing -- and it's
actually a LOT of fun to pull the good parts out
of TVs. Tho -- it's harder nowadays to build a complete
transmitter from a TV set than it used to be.

Hint -- if the TV has a UHF tuner, you can have a
lot of fun with that, and the balun core on the tuner
300 - 75 ohm transformer works FB for an input transformer
on a solid-state push-pull HF amplifier. And the
degaussing coil on the picture tube can sometimes
be converted into a long-wire or Beverage antenna.

N6OTQ

4050. Re: Toroid WBT

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: xdcrlab@quake.net
Message-ID: <xdcrlab-2506962057360001@xdcrlab.com>
Source record: 104386

In article <xdcrlab-1906960847520001@xdcrlab.com>, xdcrlab@quake.net (Mike Davis) wrote:
>
> Just wondering if anyone has a canned wide band toroidal transformer
> recipe for around 30 MHz.

Newsfeed is poor here, I pursued pointers to MiniCircuits and ordered a couple, will see how they work.

--
Articles: Melatonin, Folate, DHEA, etc.; Discount Sources Listing,
Herpes Alternatives Page, The Buffalo SpringBoard (retro)
http://www.quake.net/~xdcrlab/hp.html
ULTRANET: Ultrasound Technology Graphic Hot Links
http://www.quake.net/~xdcrlab/Ultrasound.html
Save the BW, I report unsolicited commercial email -> Blacklist of Internet Advertisers:
http://www.cco.caltech.edu/~cbrown/BL/

4051. Re: Toshiba 2SC3810

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: sansoni@mbox.vol.it
Message-ID: <4qo5qs$rt5@everest.vol.it>
Source record: 104387
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

sansoni@mbox.vol.it (Guido Sansoni) wrote:

>Hallo,
>there is someone who can tell me an equivalent of 2SC3810 NPN
>transistor made by Toshiba?
>It is a final of three mounted on a power supply 13,8 volts 30 A
>(Daiwa model PS30Xm II)
>Many tanks

Sorry Sorry Sorry :-)
The transistor is 2SC3281 NOT 2SC3810.
Please help...
Thank You.
Guido

4052. Re: Homebrew Minature VHF Reciever For Use With Car Alarm?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: ke6tgn@ix.netcom.com
Message-ID: <4qnutn$mrl@dfw-ixnews7.ix.netcom.com>
Source record: 104472

In <31CC9CE3.F25@showme.missouri.edu> Nathan Odle
<c670064@showme.missouri.edu> writes:
>
>I posted a question about homebrew microwave equipment a short while
>back, and now here's *another* question regarding *another* project
>I've got going. What I have in mind here is a voice pager that one
>could hook up to a car alarm, using ham gear. Here's what I would do:
>have a circuit in the car (this is the easy part) that would watch the
>siren
>circuit, and if activated, do the following: close my mobile's PTT
>switch, play a short "Your alarm is going off" type of message with
>proper ID off of a voice chip similar to what Radio Shaft sells, and
>repeat for a specified time interval or until the alarm is disarmed.
>That part isn't too hard at all, but it's the actual reciever a person
>would have to carry with them that would be the tricky for me. What
>I'd ideally like to have is a miniature VHF reciever that would be
>tuned to wherever in the 2M band the bandplan allows for this kind of
>stuff. It would include built-in squelch and a mute button, and would
>fit into a
>standard pager case. Given the tools and construction techniques the
>homebrewer has (i.e. no teeny surface-mount techniques), is this
>possible? If it is, can someone point me to a kit or design that
>would work for this kind of thing? Even a miniature reciever
>ready-built that I could add the mute function to and repackage, and
>retune if necessary, would be fine. Thanks in advance for any help.
>
>-Nathan Odle, KB0NNV
> c670064@showme.missouri.edu
> http://www.missouri.edu/~c670064/

Nathan,

This doesn't really answer your question, but it works for me. I picked
up a set of US Military Ground Motion Detector Set Model TRC-3A at a
hamfest several months ago. It transmits on 149.700mhz AM (I have seen
others on various VHF frequiencies-- a friend has a set that transmits
at 129mhz AM). My 2m can even pick it up at short distances. It cost me
$35.00. It uses 2 9volt batteries.

Anyway, the set usually comes with 4 transmitters and one reciever. The
on-off knob is also the sensitivity setting (1 - 5). I usually set mine
on "3", but the transmitters have some variation in their sensitivity
settings so you would have to play around with it.

When the vehicle is disturbed, it transmits a couple of beeps. If the disturbance continues, it continues to transmit. Cars going by will set it off but I usually only get a couple of beeps before it stops. Range of the signal is about 10 miles with a good reciever. I don't know how well the supplied reciever works as I set my scanner (PRO-2006) to the desired frequency and turn the volume up LOUD so it will wake me if my truck is being messed with.

You could incorporate the military set with a standard car alarm. I have no idea what the legalities of this transmitter is, but I'm not worrying about it.

I use it because it is cheap and effective. Your mileage may vary.

Good Luck!

John

4053. Re: Desoldering Guide

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: Nigel Cook <diverse@tcp.co.uk>
Message-ID: <4qo2hb$p43@zeus.tcp.co.uk>
Source record: 104473
Cross-posted to: sci.electronics.repair,sci.electronics.design,rec.radio.amateur.homebrew

>
> I've been using the Denon SC-7000 for about a year and I'm very, very
> happy with it. Having continuous vacuum in a self-contained handheld
> tool is a true sanity-saver for field service and it saves room on the
> bench. IMHO, continuous vacuum is more than worth the price.
>
>sorry to all for previous posting.
Man and machine not working as one.
here is the text that should have transferred.
Although i own an OK vacuum assist desolder
station i prefer to use a hot-air paint stripper for
speed and effeciency.
I've been using this technique for five years
To speed the process i made an IC puller from
a large pair of circlip pliers with the tips forged/
joggled to give good purchase under the ends
of the IC.
Practising on an old TTL board should give
an extraction rate of about 1 every 2 seconds
For further info on this and adaptation to deal
with surface mount chippery please check
Hints and tips on my home page
http/:www.tcp.co.uk/~diverse/

>

4054. pll0305a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: jdmjr@airmail.net
Message-ID: <4qogit$kgq@news-f.iadfw.net>
Source record: 104474

I need info a the pll0305a chip as used in the htx-100 radio- can onyone hepl?

jdmjr@airmail.net

4055. Re: How do I determine the permeabilty of an unknow ferrite core?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4qolgd$5gm@newsbf02.news.aol.com>
Source record: 104475

In article <31cebaa6.2632825@news.santafe.edu>, jpotter@jpaw.com (Jim Potter) writes:

>Also, note that this is a small signal measurement. The actual
>effective mu is a function of the signal level and dc bias.
>
>73 de K9GXC, Jim
>
>
>

And frequency. Effective permeability also varies with frequency.

And be careful the test equipment doesn't load the circuit with uwanted strays. Scopes are bad at this, RF voltmeter probes are much better.

73 Tom

4056. kenwood ts440s data

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: dianne@mbox.vol.mt
Message-ID: <4qom2c$c6b@mikasa.iol.it>
Source record: 104476

Can I use the output data from the ts440s
so I get the, working Frq, Mode and Sig
automatically to my database program on the PC

If so can anybody please HELP ME !!

Many Tks. from

CARMEL 9H5AB

4057. FS: Cobra 142 Base Station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: George Harris <103021.3555@CompuServe.COM>
Message-ID: <4qopnv$9ju$1@mhafn.production.compuserve.com>
Source record: 104477
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

142 Cobra Base Station includes: Original Box, Microphone, and
Power Cord.
Unit is in Excellent condition inside and out.
It has been peaked but no other xtras.(don't want to ruin a clean
radio)
$ 175.00 and I will pay shipping in the US.

E-Mail all responses

George

--
@@@

4058. Re: CB to Convert ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-25 00:00:00 UTC
From: Dave Hockaday <wb4iuy@nando.net>
Message-ID: <31D02606.13B9@nando.net>
Source record: 104478

> > I've found the 23 or 40 channel Hygain boards to be easy to
> > convert. The ones that use a PLL02A pll IC and 3 xtals (10.240 and 10.595
> > mhz and a 3rd I can't remember at this moment). They have a greenish PC
> > board and were made for Hygain, Midland, Kraco (K-Mart), etc.

> Hi,
> Has anybody ever gotten the "odd" pll chip to work??
> The "MM58141n" pll chip that is somethimes used instead of the Pll020?
> Would I be ahead to use the board for the IF and Audio stages??
>
> de Roy AA0B (ccrip@showme.missouri.edu)

I'm not familiar with that chip. Was it used in the units that were
remotely controller from the mic?
--
Dave Hockaday Wb4iuy
wb4iuy@nando.net

http://www.webbuild.com/~wb4iuy/
http://www.webbuild.com/~wb4iuy/teara.html
http://www.RTPnet.org/~fcarc/
http://www.RTPnet.org/~rdrc/
http://www.geocities.com/TheTropics/3349/
http://www.geocities.com/TheTropics/3341/
http://www.geocities.com/TheTropics/3489/
http://www.geocities.com/TheTropics/3212/

4059. Plausibility of constructing a decent SWL receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: a.holloway@mail.utexas.edu
Message-ID: <4qppbe$s2d@geraldo.cc.utexas.edu>
Source record: 104388

Hi Everyone,

I'm not a ham, but I figured you guys would know the answer to some of my questions. Is it worthwhile to construct a 3-30 MHz receiver comparable to, say, a Drake SW-8? By worthwhile, I mean can I get schematics, parts, etc., for substantially less than a commercial unit? I realize this is a hopelessly open-ended question since I haven't given any indication of digital vs. analog signal conversion, what sort and number of filters desired, you name it. But I'm just testing the waters, just in case building my own is preferable to buying a receiver off the shelf.

Thanks,

Alan

4060. Question regarding RX/TX switching on 50 CW TX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: cfb@bga.com
Message-ID: <4qqb92$12v0@news3.realtime.net>
Source record: 104389

I am working on the design for a 50W CW TX for 40M and 80M,
based on a 6LR8 TV sweep tube.

I wish to enable the RX to use the same antenna as the TX. I plan
on including a relay to switch the antenna center conducter from the
TX output to the center conducter of the RX input. In addition, the HT
will be disconnected from the TX circuit while in receive mode so as
to eliminate any interference from the TX local oscillator. The filament
supply will, of course, remain connected.

The chassis of the RX and TX will be joined via the shield of the RG8/U
cable connecting the RX to the TX as noted above. Both devices will
be isolated from the mains by transformers, of course.

My questions are these:

- Is this a practical thing to do? Are there any gotchas when using
normal, sturdy xPDT relays for this type of thing at the mentioned
power and frequency? Will the receiver be blown off the table on
transmission (or be deaf when switching back to RX mode)?

- Is it better to leave the RX antenna center conducter floating when
in TX mode, or should it be shorted to the chassis? Which will
result in less TX energy leaking into the receiver antenna?

Cheers and thanks in advance,

Chris.

4061. Re: Good quadrature oscillator design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4qqa31$sia@antares.en.com>
Source record: 104390

stevem@best.com (Stephen Muther) wrote:
>
> In article <4qn4f7$ljq@news3.realtime.net>,
> Kent Farnsworth <akent@bga.com> wrote:
> >I am looking for an accurate quadrature oscillator design. Anyone know
> >of one that will give an accurate (<1%) and stable sin/cos phase at
> ><100mhz frequencies?
> >
> >
>
> Arrl Handbook chapter on SSB generation has good diagrams of
flip-flop quad generators, thet need either 2 or 4 times the desired output frequency
so ecl is probably your beast, if you only need quad at one specific
frequency range, check out Mini Circuit Labs or othe RF module suppliers
quadrature hybrid modules.

4062. Re: Home brew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: jones@San-Jose.ate.slb.com
Message-ID: <4qq2hj$fjh@k9.San-Jose.ate.slb.com>
Source record: 104391

Ken Keslar (k.keslar@worldnet.att.net) wrote:
: Hi all.

: i was wondering if anyone had plans for a 2 meter FM rig and/or a 70cm
: rig and/or a 6 meter rig.

: if you do could you please e-mail them to me at
: k.keslar@worldnet.att.net
: thanks in advance.

: 73,

: DE KB2WKW
: Kenny

One thing I suggest you stay away from: The Ramsey kits. I built one
for the 1.25M band, and found it to have a lot of (needless) design
flaws. It also has problems with a 5kHz spur in the synthesizer.

I wrote a letter to Ramsey back in about January, and have never recieved
a reply.

I had intended to use the radio mobile in my pickup, but it wouldn't bring
up the repeater from one mile away with the engine running (even though I
could get into the repeater from over 20 miles away with the engine shut off).
When connected to the same wire, an Alinco DJ-F1T, an Alinco DJ-580, a
Radio Shack HTX-202, or an Icom IC-706 have had no problems getting into
repeaters in their respective bands with the engine running. Only the Ramsey
has had problems. (It's been sitting in the garage for several months now
as I lack time to fiddle with it further [the radio, not the truck].)

My only connection with Ramsey is as a DISsatisfied customer. It would
not have taken much (less than a $5 increase in the cost of the kit) to
make it a _LOT_ better, IMNSHO.

It's this kind of stuff that gives kit building a bad name.

73,
Clark
--
Disclaimer: The opinions expressed above are mine and not those of Schlumberger
because they are NOT covered by the patent agreement!

Phone: (602) 345-3638 Internet: jones@San-Jose.ate.slb.com
Packet:(not currently available) RF: KI7TU ICBM: 33 20' 44"N 111 53' 47"W
Snail: Clark Jones, Schlumberger Technologies, 7855 S. River Pkwy #116, Tempe,
AZ 85284-1825

4063. Re: Homebrew Pagers?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: andy@pythagoras.org
Message-ID: <4qqu9b$gja@masters0.Internex.NET>
Source record: 104392

Some pagers are pretty near the 902-928 ham band. We have one that's 935.
Retuning it down a little doesn't seem like much of a stretch.

4064. Re: Is their a way to do packet on a pocket organizr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: andy@pythagoras.org
Message-ID: <4qqumu$igl@masters0.Internex.NET>
Source record: 104393

In article <31CB1E5D.8D3@showme.missouri.edu>,
Nathan Odle <c670064@showme.missouri.edu> wrote:
>Well, I don't know about the wizard, but I know how to get an HP-48G
>calculator up on packet, as well as the Apple Newton. The main thing
>you need to be looking for on the wizard is a serial port, but I don't
>think it has one, does it?

How are you doing it for the Newton? I'd be very interested in that.
I know I could hook it up to one of my TNCs, but they're all much bigger
than the Newton. The Baycom is nice and small, but the software that
comes with it only runs on PCs. Is there enough info around so one could
write a driver for it for a different machine? Is there some other tiny
TNC around now?

4065. Re: LORAN C homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: OSYSMAS@MVS.OAC.UCLA.EDU
Message-ID: <19960626072918OSYSMAS@MVS.OAC.UCLA.EDU>
Source record: 104394

See Radio-Electronics, July 1993:
Using LORAN-C for Time and Frequency Calibration
by R.W.Burhans

Also Burhans has a series of articles on VLF receiving
(active antennas etc) around then (+ - a year).

Also see (if it's still there) a technical report in
postscript format by David L. Mills (the network timing
wizard Mills):

A Computer-Controlled LORAN-C Receiver for Precision Timekeeping

Electrical Engineering Department University of Delaware
Techinal Report 92-3-1 March 1992

Try looking around for "clock" and "timing" sites on the WEB, I
think the article was on a udel.edu server (thumper.udel.edu?)
and available via FTP as several (or one?) tar file.

In article <4qdloc$s98@cello.gina.calstate.edu>,
wmoyes@cello.gina.calstate.edu (William A Moyes) writes:

> Does anyone have designs for a homebrew LORAN reciever? All I
>need is the antenna/filter/RF amp stages, the processing steps should be
>easy. Thanks!
>
> -William Moyes
> wmoyes@cello.gina.calstate.edu
> KC6ARO

4066. Re: LORAN C homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: Gary Calvert <c23glc@eng.delcoelect.com>
Message-ID: <31D15284.2E60@eng.delcoelect.com>
Source record: 104395

If you are looking for a clock access from the Internet....
I have a link from my Home page at
http://www.holli.com/~gcalvert/index.html
that connects to a Navy clock and they also provide JAVA script
to add a clock to a web page.

Good Luck.

Michael Stein wrote:
>
> See Radio-Electronics, July 1993:
> Using LORAN-C for Time and Frequency Calibration
> by R.W.Burhans
>
> Also Burhans has a series of articles on VLF receiving
> (active antennas etc) around then (+ - a year).
>
> Also see (if it's still there) a technical report in
> postscript format by David L. Mills (the network timing
> wizard Mills):
>
> A Computer-Controlled LORAN-C Receiver for Precision Timekeeping
>
> Electrical Engineering Department University of Delaware
> Techinal Report 92-3-1 March 1992
>
> Try looking around for "clock" and "timing" sites on the WEB, I
> think the article was on a udel.edu server (thumper.udel.edu?)
> and available via FTP as several (or one?) tar file.
>
> In article <4qdloc$s98@cello.gina.calstate.edu>,
> wmoyes@cello.gina.calstate.edu (William A Moyes) writes:
>
> > Does anyone have designs for a homebrew LORAN reciever? All I
> >need is the antenna/filter/RF amp stages, the processing steps should be
> >easy. Thanks!
> >
> > -William Moyes
> > wmoyes@cello.gina.calstate.edu
> > KC6ARO

--
Gary Lee Calvert MSt CT-60-I Delco Kokomo - clickable from NS2.x
Unix mailto:c23glc@eng.delcoelect.com
Lotus Notes mailto:GLCALVER@mail.delcoelect.com

Work HomePage http://www.delcoelect.com/~c23glc/home.html
Home HomePage http://www.holli.com/~gcalvert/index.html
Work Ph 317-451-5725 FAX 317-451-5312 Work Ph 8-322-5725 FAX
8-322-5312

4067. Radioheart

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: Valery Filin <FP_FAGOT@opu.opu.odessa.ua>
Message-ID: <19960626110641.aaaa002hi@babyblue.cs.yale.edu>
Source record: 104396

Hello!

Greetings for everybody who lives in this big and various World.
Greetings for all who likes music or radio.
I am writing my message from Odessa.
It's interesting town, intercity near Black Sea
and here i'm making the tiny musical radiostation.
Even a small station begin to live when she has a pulsing heart.
Yeah, it's a transmitter.
Step by step i save up means for the transmitter.
Anyway i need your help.
You can write me a letter:

Valery V. Filin
Visotckogo str. 12, fl.24
Odessa, 270025
Ukraine

I'll glad to read your advices, opinions and simply good words.
Peoples who want help me are interesting for myself.
Maybe you have a records which must be on a radio.
Please, send your ideas.
And at last you can support me by small sum:

Commerzbank AG, Frankfurt/Main acc.no.4008869901USD
in favour of Imexbank, Odessa in favour of
Valery Victorovich Filin acc.no.001139619.44

Or the way trough the american bank:

The Bank Of New York, N.Y. acc.no.890-0054-808 in favour of
Dialogbank in favour of Imexbank acc.no.02000090088 in favour of
Valery Victorovich Filin acc.no.001139619.44

Thank you.
Warmest regards,
Valery

4068. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: Clifford Soderback <Cliff-s@worldnet.att.net>
Message-ID: <31D218F3.5CFD@worldnet.att.net>
Source record: 104397
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

gary wrote:
>
> I would be interested in a clean, operational, KW class broadcast
> transmitter - something in a single 6 ft. rack, running something like
> 813s modulated by 813s - you get the picture! I am interested in
> something either already useable on 160, or easily made so. This is
> mostly for nostalgic reasons, but whatever is offered will get a good,
> appreciative home. Unit must be operational, and useable on 220 vac.
>
> --
> Gary....KJ6Q *** I AM THE NRA! ***
>
> Gary:
Almost all older AM broadcast transmitters used 208volt 3 phase
power. Which is not usually availble at your home.

A popular 1 kilowatt output design used by several manufacturers
was to have a pair of 833A's sometimes modulated by another pair of
833A's.

Now the bad part, all of these old transmitters had PCB
capacitors in them. Most of the older transmitters have been
disassembled and the capacitors shipped to a disposal site. If one
of these caps were to leak or explode it would be a major hazardess
waste cleanup. The PCB liability was the primary reason these
transmitters were scraped.

Cliff, W7VVA

4069. Fast 12 bit DACs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4qrjfk$smi@opera.iinet.net.au>
Source record: 104398
Cross-posted to: comp.dsp,rec.radio.amateur.homebrew,sci.electronics.design

Anyone know of sources and prices in one off quantities for fast 10-12
bit DACS for a DDS system (50 MSPS)
Thanks

Richard
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

4070. Re: 10khz to 100khz broadband quadrature generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4qriip$smi@opera.iinet.net.au>
Source record: 104399

akent@bga.com (Kent Farnsworth) wrote:

>Is there a good low frequency (10 to 100khz) broadband quadrature
>generator? I need to accurately shift a variable frequency by 90
>degrees.

>Thank you.
>Kent
There are several ways this could be done. Look at the article on SSB
outphasers is the current issue (in Australia I think this is April)
of Electronics and Wireless World . You could use allpass networks
with Opamps or a "brute force" solution is the poly phase network
(see http://www.iinet.net.au/~richardh)

Richard

VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

4071. Re: Good quadrature oscillator design?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4qrj11$smi@opera.iinet.net.au>
Source record: 104400

akent@bga.com (Kent Farnsworth) wrote:

>I am looking for an accurate quadrature oscillator design. Anyone know
>of one that will give an accurate (<1%) and stable sin/cos phase at
><100mhz frequencies?

>Thanks
>Kent

The Johnson ring counter using two flip flops is accurate to about
10-15 MHz (input 40-60 MHz). If you want linear phase shift then you
will have to use a passive network. The Polyphase network is a "brute
-force" solution using quite a lot of components but gives a braodband
quadrature phase shift with some loss.
I am currently working on a quadrature oscillator using a dual DDS
chip (Q2334) from Qualcomm. I have managed to get a single quadrature
frequency from the board but have still write the software to decode a
keypad etc. The spurious outputs are a problem with the DDS approach.
Using an 8 bit DAC the spurs appear to be about 45dB down which is
about predicted.

Richard

VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

4072. Re: LORAN C homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-26 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDto0A2.9sK@netcom.com>
Source record: 104401

in <4qdloc$s98@cello.gina.calstate.edu>, William A Moyes wrote:
: Does anyone have designs for a homebrew LORAN reciever? All I
: need is the antenna/filter/RF amp stages, the processing steps should be
: easy. Thanks!

Check out an article by Burhans in Radio-Electronics magazine.
Sometime in the summer of 1983.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

4073. Need Address for Mini Circuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: ajsklar@aztec.asu.edu
Message-ID: <4qtagm$de4@news.asu.edu>
Source record: 104402

Hello All,
Does some one ahve an address for Mini Circuts...
I would like to get a catalog, Thanks
Allen Sklar, AA7BJ
PO Box 10095
Scottsdale AZ, 85271-0095

--
Allen Sklar Member,
Scottsdale, Arizona American Radio Relay League
ajsklar@aztec.asu.edu Society of Broadcast Engineers
aa7bj@amsat.org IEEE

4074. I want a license

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: jhuddle@earthlink.net
Message-ID: <4qtalb$1ik@ecuador.it.earthlink.net>
Source record: 104403

I want to take whatever exam(s) are necessary to obtain a license for voice communication. I need to practice the CW practical aspect. I would like to test toward the later part of August 1996. Who administers exams in the Los Angeles area?
Thanks
JH

4075. need help w/ built project not working in chicago

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: xl3381@aol.com
Message-ID: <4qti4h$kbm@newsbf02.news.aol.com>
Source record: 104404

I had someone build an FM car radio diversity antenna for me which is not working right. FYI, the theory of this antenna is that two antennas are monitored for the strongest pilot subcarrier signal and the circuit constantly switches to the one receiving the best signal to minimize multipath distortion. If there's someone in the Chicago area who would be interested in troubleshooting this for me I'd be really grateful to hear from you! I do have a .gif file of the schematic to send if you'd like to look it over.

contact me at:

XL3381@aol.com

4076. Re: Desoldering Guide

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: sam@stdavids.picker.com
Message-ID: <SAM.96Jun26202446@colossus.stdavids.picker.com>
Source record: 104405
Cross-posted to: sci.electronics.repair,sci.electronics.design,rec.radio.amateur.homebrew

In article <4qo2hb$p43@zeus.tcp.co.uk> Nigel Cook <diverse@tcp.co.uk> writes:

> > I've been using the Denon SC-7000 for about a year and I'm very, very
> > happy with it. Having continuous vacuum in a self-contained handheld
> > tool is a true sanity-saver for field service and it saves room on the
> > bench. IMHO, continuous vacuum is more than worth the price.
> >

> Although i own an OK vacuum assist desolder
> station i prefer to use a hot-air paint stripper for
> speed and effeciency.

I will probably get flamed for this (probably with your paint stripper) but this is apples and oranges. A vacuum rework station is not the tool for mass desoldering. Similarly, a hot air gun or paint stripper is not the tool to be used where all you want to do is remove one part without affecting the rest of the board. You risk damaging other components in ways that may not show up immediately. There are hot air temperature controlled rework stations for pulling large multilegged chips but at least there is more control over area of heating and temperature.

OK, I have my asbestos suit on now. :-)

--- sam

4077. Re: Microwave Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: "K.R.Burtchaell" <kburt@telis.org>
Message-ID: <4qtshd$lqp@mentor.telis.org>
Source record: 104406

I checked my Andrew catalog and did not find anything,however any serious microwave enthusiast would be interested in them.You need to determine the focal length and then you can establish the FL/Diameter ratio.Any number between .3 and .6 would make it a good choice for ham use. 73 Ken W6GHV

4078. Re: Need Address for Mini Circuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: First Last <First.Last@sematech.org>
Message-ID: <31D297B5.60D4@sematech.org>
Source record: 104407

ALLEN SKLAR wrote:
>
> Hello All,
> Does some one ahve an address for Mini Circuts...
> I would like to get a catalog, Thanks
> Allen Sklar, AA7BJ
> PO Box 10095
> Scottsdale AZ, 85271-0095
>
> --
> Allen Sklar Member,
> Scottsdale, Arizona American Radio Relay League
> ajsklar@aztec.asu.edu Society of Broadcast Engineers
> aa7bj@amsat.org IEEEP.O.Box 350116
Brooklyn, N.Y. 11235-0003
(718)934-4500
1-800654-7949

4079. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2706960810340001@d137.w.interaccess.com>
Source record: 104408
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <4qsdrb$d0@chewy.castles.com>, gary <tech@thereporter.com> wrote:

> "The NRA doesn't vote, it's *MEMBERS* do - *ABUNDANTLY!*"

I recently read that the NRA members usually don't vote along the lines
that their shrill leadership recommends.

Dave

--
Dave Moorman
Downers Grove
Illinois, USA Be big, don't belittle!

4080. Re: Finding permeability of Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9605278358.AA835894538@mails.imed.com>
Source record: 104409

I still have one of the company's HP network analysers on loan at home. These are *REALLY* nice toys (oops -- tools). They allow you to plot magnitude and phase vs frequency from 100 Hz to 40MHz for any 2 terminal device (there are other functions as well).

The thing that this particular model does *great* is to calculate an equivalent circuit for the 2 terminal device you hook up to it.

I am pulling a bunch of coils from old circuit boards to use in a couple of projects, so I did an equivalent circuit for them.

In the process I found some old toroids I had wound many years ago. I *QUICKLY* discovered which toroids were ferrite and which were powdered iron. In every case the ferrite cores (usually 67 mix) showed *very* high inductance below 1 MHz, *but* they showed self-resonance in the low MHz range and turned into good capacitors as the frequency went into the HF range. They make really good inductors for filters and transformers in switching power supplies, but they are useless for inductors at HF.

The point to this is that it is *very* important to measure the inductance of any unknown core at the frequency where you will use it. You need to not only measure the inductance, but the Q as well. Ferrites (and powdered iron outside the useful range) may be inductive, but the Q may be awful! You need fairly good test equipment to do this.

Now for my soapbox:

Any toroid should work OK below 1MHz regardless of core type. There will be varying capabilities depending on core type, but they should do OK.

When you start to do HF and VHF work, spend the money to buy brand new cores! That way you know exactly what you have. The new cores are cheap enough, and you will probably need $10 or so worth of cores for any project, so you don't have to worry about a minimum order from somewhere. I purchased 4 Yellow Amidon Iron core toroids (low VHF region) for about $2.50 a couple of years ago at the local electronics store. It's cheap insurance for knowing that I have the best core for the job.

While on the subject of color coding: If you didn't buy the core new and make sure you labled it, you probably don't know what it is. There are some imported cores I have found that use the same colors as the Amidon cores, but they *are not* the same material. Most of the stuff I scrounged from consumer equipment is ferrite even though the

colors would indicate iron core.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

4081. Re: Need Address for Mini Circuts

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <4qu1en$c3@mercur.foa.se>
Source record: 104410

Hi Allen
I hope this will help you.

Mini Circuits
P O Box 350166
Brooklyn
New York 11235-0003
Phone (718) 934-4500 Fax (718) 332-4661
Internet http://www.minicircuits.com

73 de SM5GLC

ajsklar@aztec.asu.edu (ALLEN SKLAR) wrote:

>Hello All,
>Does some one ahve an address for Mini Circuts...
>I would like to get a catalog, Thanks
>Allen Sklar, AA7BJ
>PO Box 10095
>Scottsdale AZ, 85271-0095

>--
>Allen Sklar Member,
>Scottsdale, Arizona American Radio Relay League
>ajsklar@aztec.asu.edu Society of Broadcast Engineers
>aa7bj@amsat.org IEEE

4082. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: Dick Flanagan <dick@merlin.libelle.com>
Message-ID: <31D2CBF5.59D4@merlin.libelle.com>
Source record: 104411
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Dave Moorman wrote:
> I recently read that the NRA members usually don't vote along the lines
> that their shrill leadership recommends.

Perhaps, but there a great many NRA "moderates" who State and Federal legislators had better pay attention to when it comes to messing with fundamental rights.

We don't need more knee-jerk laws enacted. We need to enforce the laws we already have!

Dick Flanagan
Life Member NRA
--
Dick Flanagan, W6OLD - (dick@merlin.libelle.com) - Minden, NV

4083. WTB - ceramic piston trimmer caps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: ae517@FreeNet.Carleton.CA
Message-ID: <4qun5s$cr0@freenet-news.carleton.ca>
Source record: 104412

I'm looking for 6 or more ceramic piston caps of no more than 10 pf
for a pre-amp I'm working on.

Something like a Johanson lug or turret type would be fine, and I don't
mind used or surplus; it's just that Newark has a large minimum order
and Active doesn't carry the piston type.

leave me mail at va3rr@amsat.org

tnx

4084. Can someone I.D. these Amidon cores' frequency range?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4qulvr$pkn@mksrv1.dseg.ti.com>
Source record: 104413

I was given a bunch of new, unused Amidon toroid cores. Does anyone have the Amidon literature handy, and can you tell me what the frequency range of each of these cores is? I might be able to use them if I knew what frequencies they were recommended for...

T25-2
T25-10
T25-12
T30-22
T37-10
T37-12
T50-10
T50-12
FT37-67
FT50-67
FT50B-63

Thanks and 73 de KC5NG

4085. Re: Fast 12 bit DACs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: Brad Evans <bevans@best.com>
Message-ID: <31D24EFE.19ED@best.com>
Source record: 104414
Cross-posted to: comp.dsp,rec.radio.amateur.homebrew,sci.electronics.design

Richard Hosking wrote:
>
> Anyone know of sources and prices in one off quantities for fast 10-12
> bit DACS for a DDS system (50 MSPS)
> Thanks
>
> Richard
> VK6BRO
> richardh@iinet.net.au
> http://www.iinet.net.au/~richardh

Here are few 12 bit parts you might find interesting:

Manufacturer Model Rate (MHz)
Analog Devices AD9713B 80
Burr-Brown DAC602 100
Harris Semi HI5731 100
SPT SPT9713 100

I think you'll find in general that using a DAC rated at 100
MSPS will give you superior spectral performance than those
that just meet your rate at 50 MSPS.

Also, Analog Devices just introduced a new line of low
glitch energy 100 MSPS DACs in their AD976X family.

Analog Devices also has a DDS chip with built-in low-glitch
10 bit DAC that clocks at 125 MSPS. Part number is AD9850.

Brad

Graychip High Performance DSP Chips and Systems
Digital Tuners - FIR Filters - Resamplers - QAM Demods
And now, a Quad 50 MSPS Digital Transmitter chip

Web: http://www.graychip.com
Tel: (415) 323-2955

4086. Re: Finding permeability of Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4qupuu$5to@hpscit.sc.hp.com>
Source record: 104415

In article <9605278358.AA835894538@mails.imed.com>,
<mack@mails.imed.COM> wrote:
>I still have one of the company's HP network analysers on loan at
>home. These are *REALLY* nice toys (oops -- tools). They allow you
>to plot magnitude and phase vs frequency from 100 Hz to 40MHz for any
>2 terminal device (there are other functions as well).

>The thing that this particular model does *great* is to calculate an
>equivalent circuit for the 2 terminal device you hook up to it.

Yes, I love my HP 4194.

>In the process I found some old toroids I had wound many years ago. I
>*QUICKLY* discovered which toroids were ferrite and which were
>powdered iron. In every case the ferrite cores (usually 67 mix)
>showed *very* high inductance below 1 MHz, *but* they showed
>self-resonance in the low MHz range and turned into good capacitors as
>the frequency went into the HF range. They make really good inductors
>for filters and transformers in switching power supplies, but they are
>useless for inductors at HF.

>Ray Mack

Whoa! Surely you aren't talking about Fair-Rite #67? That's
a material with a mu of 40 and rather low saturation flux density.
Totally useless for switching power supplies. However, it is one of
the best core materials for HF. Here are some measured Q numbers for
15 turns of #22 wire on a 1/2 inch O.D. Fair-rite 67 core:

Frequency: Q:

3.4 MHz 450
4.75 480
6.8 450
10.5 360
17 180
22.9 107
30.8 85

At the low end of this range, I don't think anything can beat it.
At the high end, Fair-rite 68 starts to compete with it.

Rick Karlquist N6RK
rkarlqu@scd.hp.com

4087. ATV gear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: seiler@mala.bc.ca
Message-ID: <1996Jun27.144455@malins.mala.bc.ca>
Source record: 104416

Hello fellow homebrewers
I am looking for 33 cm
atv gear as well as a motorized pan tilt head for a video camera
please respond via email if you have such peices
cheers and 73

Walt

4088. Re: Is their a way to do packet on a pocket organizr?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: frank.dinger@zetnet.co.uk
Message-ID: <4qv2ek$4rf@roch.zetnet.co.uk>
Source record: 104417

> How are you doing it for the Newton? I'd be very interested in that.
> I know I could hook it up to one of my TNCs, but they're all much bigger
> than the Newton. The Baycom is nice and small, but the software that
> comes with it only runs on PCs. Is there enough info around so one could
> write a driver for it for a different machine? Is there some other tiny
> TNC around now?

========== response GM0CSZ / KN6WH
Yes ,there is a 1200Baud TNC ,the size of a packet of cigarettes.
Make : PacComm Model : PicoPacket.

Frank Dinger , Inver by Tain , Ross-shire IV20 1RX - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4089. Re: Microwave Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: ESPI35E@prodigy.com
Message-ID: <4qv3o8$5i2s@usenetz1.news.prodigy.com>
Source record: 104418

>I have two mirowave antennas and radomes that I picked up surplus..
>
>They are Andrew 48" Diameter dishes and have the markings 47017 and
>TM0057. Can anyone tell me what freq these are for and if they are
>worth keeping around.. Any Idea for projects?
>
>Please E-Mail me with replies, Bill N0MKJ
>
>wrupp@execpc.com
>www.execpc.com/~wrupp

A dish is a dish is a dish.

Depends on what you feed it with. There are formulas to calculate gain
vs. frequency of parabolic reflectors. They'd work GREAT at 10.5 GHz,
but you could just as well use them all the way down to audio frequencies.
Put your ear in the focal point and you'll be amazed at what you can
hear at great distances.

4090. Re: Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <oIQPhHArkw0xEwZU@briano.demon.co.uk>
Source record: 104419

In article <31D1DA35.2B3E@showme.missouri.edu>, Nathan Odle
<c670064@showme.missouri.edu> writes
>I am attempting to build a project which calls for two 100nH
>(.1mH) and one 75nH (.075mH) air-core inductors. I have never wound a
>coil before, but I got out my trusty ARRL Handbook and found an
>inductance chart which told me that, assuming 8 Turns Per Inch of no.12
>bare wire with a 1/2" inside diameter with 1/2" leads, I should use 2.5
>turns for the 100nH coils and just shy of 2 turns for the 75nH coil.
>
> The first question is this: since I don't have any way of
>measuring the inductance of the finished coil to verify these values,
>can someone verify that these are correct? The second question is, what
>is no.12 wire? I realize that that second question may make me look
>like an idiot to some of you, but I honestly don't know. I know that
>it's not 12 GAUGE (I *am* smart enough to figure that out), but have no
>clue what else it could be. Can someone help me out with this? Also,
>does Radio Shaft stock the stuff, or will I have to order it from
>somewhere (as far as electronic components go, there isn't really
>anything BUT RS locally)? I'm kind of at a dead-end until I find out
>what this stuff is. Like I said, probably a stupid question, but I'm
>just starting out at this stuff. In case you're wondering, I'm building
>a pair of receive preamps using 2 MAR-6 MMIC's for the 10GHz link I'm
>putting together. Thanks to anyone that can help...
>
>-Nathan Odle
> c670064@showme.missouri.edu
> http://www.missouir.edu/~c670064

-hello
well #12 usually does mean 12 gauge as in wire gauge and not
shot gun it is from memmory about 1/8 of an inch thick and a wet
finger in the air tells me the arrl is not far away
you need strong thumbs to wind #12 into 1/2 inch coils
the gauge isn't critical it's the turns that count and at this freq
the length of the legs just because it isn't coiled don't stop it
being an inductor! if it's critical read up on strip lines etched
onto pcb they are much better at vhf and matching to rf devices is simplified
have fun-
Brian Olliver

4091. Re: VSWR meter for UHF bands Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <9oFK5KA9yw0xEwZN@briano.demon.co.uk>
Source record: 104420

In article <31CF4E6A.56B1@global2000.net>, John M Domblewski
<wendysue@global2000.net> writes
>David Peter Cureton wrote:
>>
>> Hi,
>> I'm looking for a scematic for a VSWR meter that will work into
>> the uhf bands up to 500Mhz. Most designs I have found only extend to the
>> 30Mhz barrier. I have been thinking of modifying the directional coupler
>> of the tandem match directional wattmeter outlined in the ARRL handbook
>> but are unsure if transformers in this design would work very well at
>> such a high frequency.
>>
>> How accurate are the VSWR meters that are made of simple stripline
>> construction?
>>
>> Ultimatly I would like a meter that covers the 2 meter band as well as the
>> UHF CB band a bit below 500Mhz.
>>
>> Thanks in advance
>>
>> '73 de David
>>
>> Email me on Cureton@minyos.rmit.edu.au, I will post results to the
>> newsgroup
>
>
>
>Bird watt meter!!!!!!!!!!
>
>John

-hello
if you only want relative readings and cheap construction
then carefully tuck a couple of good quality diodes under the
outer copper braid of some good coax earthing the one end of course
by slitting the pvc or pet outer and soldering carefully bring the
other end of each diode out insulated and with a very small resistor in
series say .1 watt 470 ohms decouple it with a disc ceramic cap back to the
outer braid
use the coax in line with tx output and switch the meter between diodes
the 470 ohms prevents inrush to the cap blowing the diode if used on very
high power tx's
you can't seriously measure watts with a diode """""-
Brian Olliver - -

6
~~~
v
~~~

4092. FS : Cablewave Hardline Connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: paulc@esslink.com
Message-ID: <4qvahq$b44@news.esslink.com>
Source record: 104421

Hello All,

I have the following list of hardline connectors for sale
All connectors are used but in good condition.

(1) of HCC-78-50NM for 7/8" air

(2) of HCC-78-50NF for 7/8" air

(2) of FLC-78- 50NF for7/8" foam

(3) of FLC-12-50NM for 1/2" foam

All 7/8" connectors are $20.00 and the 1/2" are $10.00

PaulC@esslink.com

4093. Re: Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-27 00:00:00 UTC
From: Madjid <orion@odyssee.net>
Message-ID: <31D34783.38E6@odyssee.net>
Source record: 104422

Nathan Odle wrote:
>
> I am attempting to build a project which calls for two 100nH
> (.1mH) and one 75nH (.075mH) air-core inductors. I have never wound a
> coil before, but I got out my trusty ARRL Handbook and found an
> inductance chart which told me that, assuming 8 Turns Per Inch of no.12
> bare wire with a 1/2" inside diameter with 1/2" leads, I should use 2.5
> turns for the 100nH coils and just shy of 2 turns for the 75nH coil.
>
> The first question is this: since I don't have any way of
> measuring the inductance of the finished coil to verify these values,
> can someone verify that these are correct? The second question is, what
> is no.12 wire? I realize that that second question may make me look
> like an idiot to some of you, but I honestly don't know. I know that
> it's not 12 GAUGE (I *am* smart enough to figure that out), but have no
> clue what else it could be. Can someone help me out with this? Also,
> does Radio Shaft stock the stuff, or will I have to order it from
> somewhere (as far as electronic components go, there isn't really
> anything BUT RS locally)? I'm kind of at a dead-end until I find out
> what this stuff is. Like I said, probably a stupid question, but I'm
> just starting out at this stuff. In case you're wondering, I'm building
> a pair of receive preamps using 2 MAR-6 MMIC's for the 10GHz link I'm
> putting together. Thanks to anyone that can help...

There is in the ARRL BBS a program to calculate coils coil112.exe
(http://oak.oakland.edu:8080/pub/hamradio/arrl/bbs/programs)

if that can help you.

I will not however wind coils on a form for 10Ghz. In that
range I will use microstrips made on copper clad. They are
a lot more precise and stable.

To calculate microstrips and things like that there is a super
nice program on the WEB for FREE at:

http://users.deltanet.com/~pekarek/txline.html

If you are stuck and don't have any measuring instruments
but still have a full coverage receiver you can always
put a capacitor in // with a coil and put it in serie
with your antenna. That // circuit will be very high
impedance at resonance and you will observe a dip
on the S-meter and silencing of the receiver.

Knowing F and C you can calculate L. With nanohenries however it is another story. Connexions alone will make measurements impossible to make with any accuracy.

Madjid VE2GMI

4094. Re: Home brew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: bob@waterw.com
Message-ID: <4r0o35$3jl@sea.waterw.com>
Source record: 104330

In article <4qq2hj$fjh@k9.San-Jose.ate.slb.com>, jones@San-Jose.ate.slb.com (Clark Jones) says:
>

>One thing I suggest you stay away from: The Ramsey kits. I built one
>for the 1.25M band, and found it to have a lot of (needless) design
>flaws. It also has problems with a 5kHz spur in the synthesizer.

I've learned to expect very little from Ramsey, so I've been
only mildly disappointed. They have OLD, bad designs. Ramsey
doesn't seem too interested in improving their products.

>My only connection with Ramsey is as a DISsatisfied customer. It would
>not have taken much (less than a $5 increase in the cost of the kit) to
>make it a _LOT_ better, IMNSHO.

I'm really surprized they stay in business. Anyone who's every
built any of their junk knows to avoid them. At Dayton, they
were there in force, although a lot of people walking buy were
openly complaining about the poor quality.

4095. Re: Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4r0ong$mcj@newsgate.sps.mot.com>
Source record: 104331

Check your math, guys -- those coils sound awfully big for use
on 10 GHz, unless they're for power supply and bias filtering.

You can pick up scrap 12 ga wire on any job site -- it's
what they wire new homes with. And the gauge of the wire
in inductors is relatively non-critical -- it's more an issue
of how tight the turns need to be (TPI) to get the desired
inductance. Get out your spreadsheet and step through
the values on the ARRL inductance equation (which, incidentally,
is an APPROXIMATION) to see how little the inductance varies
with wire diameter.

A significant factor of wire size vs. turns per inch is -- you
can easily make a bifilar wind on a removable core, remove
one winding, and remove the core to have a perfect air-core coil.
The extra winding works as a spacer.

For 1/2" diameter, a drill bit held in a vise will work perfectly.

N6OTQ

4096. Re: Fast 12 bit DACs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: morgarws@phu891.um.us.sbphrd.com
Message-ID: <4r0ps5$62n@phunn1.sbphrd.com>
Source record: 104332
Cross-posted to: comp.dsp,rec.radio.amateur.homebrew,sci.electronics.design

Richard Hosking (richardh@iinet.net.au) wrote:
: Anyone know of sources and prices in one off quantities for fast 10-12
: bit DACS for a DDS system (50 MSPS)
: Thanks

: Richard
: VK6BRO
: richardh@iinet.net.au
: http://www.iinet.net.au/~richardh

Take a look at http://www.analog.com. They have some very fast devices.
For example the AD9020 is a 10 bit 60msps device. Don''t know what their
prices are though.

William S. Morgart inet: morgarws@molbio.sbphrd.com
Principle Scientific Analyst, Phone: (610) 270-5419
Bioinformatics Fax: (610) 270-5580

SmithKline Beecham Pharmaceuticals
709 Swedeland Road,
PO. Box 1539, MS UW2230
King of Prussia, PA 19406-0939

4097. Re: Q: How to mesure 900MHz and 2.4GHz RF density?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: cef@hyperion.haystack.edu
Message-ID: <4r13ud$10a@senator-bedfellow.MIT.EDU>
Source record: 104333
Cross-posted to: rec.radio.scanner,rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment

You could use a RF radiation field servey meter that would give you mw/cmsq
The probes used for such meters are so broad banded that you would
have a difficult time determining which frequencies you are measuring.

The only way to get a good feel for the spectrum is with a spectrum analyzer.
You can connect an amplifier to your Yagi if the signals are low level.
You could build a spectrum analizer that would connect up to an o-scope but I
have never seen one that would extend above 1.2 without down conversion.

You would be much better off with a portable spectrum analyzer tektronics makes
a model 492P which retailed for ~ $12K US. Try a rental place or maybe Tucker
will rent/lease one for your measurements. They are on the WWW I don't have
the address handy. Use a search engine.

You would then need to calculate the free space attenuation of the signal level
you recieved and you could determine the approx tx output if you know the
distance from the emitter.

Chris

In article <Pine.SOL.3.91.960626121233.20229A-100000@smtp>,
georgiev@generation.net says...
>
>Hi everyone,
>
>I am interested of how to mesure current 902-916 MHz diapasone RF fiel
>d
>density and also 2.4 GHz diapasone density downtown Montreal in order
>to
>see if a wireless spread-spectrum data link in one of these wave range
>s
>could be used instead of cable link. Is there some (relatively)simple
>device (I will make it if possible), that I can use with yagi antenna
>to
>pinpoint where are located any emiters?
>
> Thanks in advance, George.
>
>--------- All opinions are my own, no company or org. ---------
>--------- should be linked with what is stated here. ---------
>George Georgiev georgiev@generation.net
> geogeo01@aircanada.ca
>

4098. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: jstroppe@uhl.uiowa.edu
Message-ID: <4r13sg$ko0@flood.weeg.uiowa.edu>
Source record: 104334
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

I don't know of a transformer that will produce three phase, but I have taken capacitors and shifted one side of the single phase 240 vac to get a new phase which worked with a welder. There is a rotory converter which is a three phase motor with some capacitors that does produce a better 3 phase.

John WA0VYZ

--
John Stroppel | Internet: jstroppe@uhl.uiowa.edu
The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
Iowa City, IA 52242 | Fax: (319) 335-4555

4099. Re: I want a license

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: dhhogan@lightside.com
Message-ID: <31d42241.13837255@netnews.lightside.com>
Source record: 104335

jhuddle@earthlink.net (Joseph Huddleston) wrote:

>I want to take whatever exam(s) are necessary to obtain a license for voice communication.
>I need to practice the CW practical aspect. I would like to test toward the later part of
>August 1996. Who administers exams in the Los Angeles area?

Here is an L.A list from the ARRL directory from the FTP
site at oak.oakland.edu.

CALIFORNIA L.A Area Exams
06/29/96,A,Culver City,90049,310-459-0337,Scott V Swanson
06/29/96,5,Torrance,96900,310-834-0558,Renato Santos
07/12/96,A,Irvine,92717,714-824-8477,Jack C Lockhart
WD6AEI
07/13/96,5,Bell,90201,213-560-8618,Pedro Cacheiro
07/13/96,A,Glendora,91740,818-966-7715,Perry Stevens
P.R.C.
07/13/96,5,San Pedro,90710,310-325-2965,Elvin Lytle
07/18/96,5,Fountain Valley,92708,714-531-6707,Allan Avnet
07/20/96,5,Westminster,92640,714-638-4057,Terry Hall
07/27/96,A,Culver City,90049,310-459-0337,Scott V Swanson
07/27/96,5,Garden Grove,92643,714-534-8633,John Gregory
07/27/96,A,Pomona,91769,909-949-0059,Donald Warburg
WA6HNC
08/10/96,5,Bell,90201,213-560-8618,Pedro Cacheiro
08/10/96,5,Brea,92621,310-691-1514,Robert Reitzel
08/10/96,A,Glendora,91740,818-966-7715,Perry Stevens
P.R.C.
08/10/96,5,San Pedro,90710,310-325-2965,Elvin Lytle
08/15/96,5,Fountain Valley,92708,714-531-6707,Allan Avnet
08/31/96,A,Culver City,90049,310-459-0337,Scott V Swanson
08/31/96,A,Pomona,91769,909-949-0059,Donald Warburg
WA6HNC

Dan Hogan
dhhogan@lightside.com

4100. Re: Can someone I.D. these Amidon cores' frequency range?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDtpvyy.AMA@netcom.com>
Source record: 104336

In article <4qulvr$pkn@mksrv1.dseg.ti.com> d-hemphill@ti.com (D.W.Hemphill KC5NG) writes:
-I was given a bunch of new, unused Amidon toroid cores.
-T25-2
-T25-10
-T25-12
-T30-22
-T37-10
-T37-12
-T50-10
-T50-12
-FT37-67
-FT50-67
-FT50B-63

According to my Ocean State catalog, here's the info:
First number is the size (OD) in tenths of an inch (T50 = 1/2 inch OD)

Powdered Iron:
Mix 1 - blue - 0.15-2 MHz
Mix 2 - red - 0.25-10 MHz
Mix 3 - grey - 0.02-1 MHz
Mix 6 - yel - 2-30 MHz
Mix 10- blk - 10-100 MHz
Mix 12- grn/wht- 20-200 MHz
Mix 15- red/wht- 0.1-3 MHz
Mix 26- yel/wht- 0-1 MHz

Ferrite:
Mix 43 - mu=850 0.1-1 MHz
Mix 61 - mu=125 0.2-10 MHz
Mix 63 - mu=40 10-25 MHz
Mix 67 - mu=40 10-80 MHz
Mix 68 - mu=20 80-180 MHz
Mix 75 - mu=5000 0.1-1 MHz
Mix 77 - mu=1800 0.001-2 MHz

/mike

--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@netcom.com /|\

4101. Re: Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Jun28.100403.568@nad.com>
Source record: 104337

In article <4r069u$poi@daffy.sb.west.net>, mark@reson.com (qrk) writes:
> Nathan Odle <c670064@showme.missouri.edu> wrote:
>
>>[snippage]
>>In case you're wondering, I'm building
>>a pair of receive preamps using 2 MAR-6 MMIC's for the 10GHz link I'm
>>putting together. Thanks to anyone that can help...
>
> MAR-6 is rated for 2 GHz tops. At 10 GHz, I don't think you will get
> appreciable gain out of it. Or do you mean 1.0 GHz?
>
> -
> Mark Chun | mark@reson.com | Santa Barbara, California

The MAR-6's are used as IF amps and will work fine. You can buy them direct
from Mini Circuits (in quantity) or from Down East Microwave 908-996-3584.

Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

4102. Re: Finding permeability of Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4r1bjh$4vp@newsbf02.news.aol.com>
Source record: 104338

In article <RwFyPRA8T90xEwtD@ifwtech.demon.co.uk>, "Ian White, G3SEK"
<G3SEK@ifwtech.demon.co.uk> writes:

>Rather well, it seems.
>
>G0SNO (RSGB EMC committee) has measured the performance of 14 turns on a
>yoke core with 29mm inside diameter. The inductance measured at low
>frequencies was about 70uH. In a 50ohm system the common-mode
>attenuation peaked to 34dB at 20MHz, and was >20dB from 2-65MHz.
>
>Out of all the branded ferrite rings and clip-on cores he tested, with
>the numbers of turns optimized to cover the higher HF bands, none of
>them was more than 6dB better than the yoke core from 1.8-50MHz.
>And the yoke core was the only one big enough to take large power cable
>or coax.

Perhaps it's because of the waveshape? The yoke must respond to the very
fast falling edge of the sawtooth? What think ye?

73 Tom

4103. Looking for IEEE488/GPIB controller board/chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: jeffa@pax.ssd.loral.com
Message-ID: <1996Jun28.205734.29650@ssd.loral.com>
Source record: 104339
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

Are there any vendors of IEEE488 pcb modules or chips that can be used to give a piece of equipment GPIB talk/listen capability? The equipment has to be standalone (not tied to a PC or controller box) so a PC plug-in card w/ control wires to the instrument won't do.

Thanks in advance for any info.

jeffa@sesinc.com

4104. Re: 10khz to 100khz broadband quadrature generator?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: dgould@htec.usa1.com
Message-ID: <61c7cc$de0.1d1@news2.usa1.com>
Source record: 104340

In article <4qn4m1$ljq@news3.realtime.net>, akent@bga.com says...
>
>Is there a good low frequency (10 to 100khz) broadband quadrature
>generator? I need to accurately shift a variable frequency by 90
>degrees.
>
>Thank you.
>Kent

Alternatively you could digitize it, feed it into a DSP, and do
it in software.

Q: How many hardware engineers does it take to change a lightbulb?

A: None! You can fix anything in software.

Dana, WA1UIW

4105. 6M/2M dual band antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: Alan Raskind <alan.raskind@trw.com>
Message-ID: <31D48586.1D79@trw.com>
Source record: 104341

mack@MAILS.IMED.COM wrote:
>
> Earl Needham in Clovis, NM asked about a combo 6M/2M mobile antenna.
>
> Earl:
> There is a commercially available dual band antenna from
> Hustler. They just don't know they have a dual band antenna!!!
> Buy a regular Hustler SF-2 2M 5/8 antenna. This antenna is
> electrically 3/4 wavelength when you add in the loading coil at the
> bottom. If you divide 150 MHz (close enough!) by 3 you get 50MHz.
> Another way of saying that electrically this antenna is 1/4 at 6M and
> 3/4 at 2M. It is a little short on 6, but it *DOES* work. The only
> down side is that it is vertically polarized. It *does* cost you a
> little on 6M SSB but a halo is a lot more trouble and probably not
> much better. No problem for 6M FM though.
>
> All you need is a regular 3/8-24 threaded mount for a mount. *Any* CB
> 3/8-24 mount (or amateur mount) will work. The diplexor is just a
> matter of designing a combo low pass/high pass filter and putting it
> into a box. Due to the closeness of the bands, it may be a little
> tricky to get working, but not terribly difficult. There was an
> article in one of the Ham magazines in the past 3-4 years and I can't
> remember which one that gave a diplexor schematic and construction for
> a 146/432 diplexor. It would give you an idea of how to do one for
> 6M/2M. Hopefully, someone on the list has a better memory than me. I
> think it was either 73 magazine or CQ.
>
> Ray Mack
> WD5IFS
> mack@mails.imed.com
> Friendswood (Houston), TX

Another alternative is to get the COMTELCO A1801HB-50 SHUNT FED 6 Meter antenna. This antenna is being used heavily on the west coast. Only the shunt fed version is resonant on both 6 and 2M and works very well on both bands. The antenna is under $35.00 It is a unity gain antenna. It comes with a Motorola NMO mount in the base. It uses a plunger center contact instead of a leaf spring. The antenna model above is all black in color.

'73 Alan, de WA6AQC

4106. Re: Fast 12 bit DACs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: "Peter A. Rabbeni" <rabbeni@ix.netcom.com>
Message-ID: <31D498AE.C6A@ix.netcom.com>
Source record: 104342
Cross-posted to: comp.dsp,rec.radio.amateur.homebrew,sci.electronics.design

Richard Hosking wrote:
>
> Anyone know of sources and prices in one off quantities for fast 10-12
> bit DACS for a DDS system (50 MSPS)
> Thanks
>
> Richard
> VK6BRO
> richardh@iinet.net.au
> http://www.iinet.net.au/~richardhRichard
Analog Devices has some pretty good DAC choices. Ive used the
AD9721 (US$27) hooked up to a STEL1178 at a clock freq. of 64MHz to
achieve spurs at about -53 dBc. over a freq. range of 12-28 MHz. They
have also come out with a full blown NCO/DAC solution in a single package
(AD9901 or AD7001) for about US$17. Good Luck.
Pete

4107. Re: Homebrew Microwave Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9605288359.AA835999404@mail.creo.bc.ca>
Source record: 104343

Joe AA3GN writes:

> I've put together a kind of "WBFM resource guide". Yes - I know this
> isn't SOTA, but it's a cheap and fun way to get started in microwave
> experimentation, and perhaps a confidence building steppingstone to
> narrowband.

The attraction for me was the price, the general idiot-proofness of the support electronics, and the price. This was an opportunity for me to do something genuinely different (for me, anyway) at minimal risk. To adapt a piece of equipment to another purpose, in the best ham tradition. Maybe even to inspire a few folks to get out of their 2m FM rut.

I've since seen an article in VHF Communications on injection locking a Gunn source to a handheld and a step-recovery diode (maybe a green LED?) for NBFM. Hmmm...the somewhat limited nature of WBFM isn't really an issue here - the only non-LOS path from CN89 is EME, which is a pretty big step up from a few milliwatts of FM or SSB.

Thanks to folks for their words of encouragement...QRZ 10 GHz?

> If anyone's interested, reply to the and I'll send the file.
> (It's a little long and I dont want to post it)

Yes, please!

> P.S. I didn't include the IF preamp but it is a good idea for an
> improvement.

There isn't much to mine; it's straight out of Mini-Circuits app notes. I used MMICs I had available and made the pc board the size of a credit card, which seemed about right for what needed to go on it. The modulators are on perfboard, also the size of a credit card.

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

4108. More toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9605288359.AA835977661@mails.imed.com>
Source record: 104344

Rick said:

Whoa! Surely you aren't talking about Fair-Rite #67? That's

Rick:

My brain is in gear now. You are absolutely right. the cores
I was measuring were Fair-Rite mix 43 and a couple of mix 61. I was a
little surprised that the mix 61 cores showed such bad response at HF.
I just saw your post, so I'll have to re-test the 61 mix cores
tonight.

I checked the data in the handbook (presumably direct from
Amidon or Fair-Rite) on mix 43 and it, indeed, says it is only good up
to about 1 MHz. Mix 61 is supposed to be good up to 10MHz, so I
definately need to re-test those cores!

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

4109. Parts or info on Sniperscope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: windhorn@ic.mankato.mn.us
Message-ID: <4r10ad$o38@Oak.IC.Mankato.MN.US>
Source record: 104345
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.equipment,sci.electronics.equipment,sci.electronics.misc

A friend of mine bought a Korean War vintage Sniperscope (P.O.#27-43200-03, dated 6/23/51) at a garage sale. It is missing the power pack which supplies 20kV for the image tube and some lower control voltages. It uses the newer image tube, the number of which I have forgotten.

I am trying to help him find (1) a manual, schematic, or any other information on this piece of equipment, and (2) a power pack, or plans for one, or at least specifications so we can design one ourselves. Any assistance will be greatly appreciated.

I will try to monitor these groups, but if you can copy me by email also it will help. Thanks very much.

Allen

Allen Windhorn
Kato Engineering
(A Rockwell Automation Company)
P.O. Box 8447
N. Mankato, MN 56002-8447

4110. Re: Electronic Workbench

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: Ference Kish <fkish@attila.mtx.net.net>
Message-ID: <NEWTNews.835975162.10736.fkish@attila.mtx.net.au>
Source record: 104423

> >One of the recent ham magazines had an article about building up
> >a homebrew 30M transceiver. The author made extensive use of a
> >software package call "Electronic Workbench". Has anyone else used
> >this package that would care to comment on their experience with it?

I have used EWB. My experience is that I spend more time on getting it
work than I would building the circuits.

As an example: I play around with RF oscillators a lot and I find that
it is not very good at simulating those. I can usually build the circuits
in less time then I have to spend in getting EWB "configured" correctly
to get a trace on the 'scope.

In fact quite often I end up proving EWB with my circuits instead of proving
the circuits by EWB.

However, you should check what others have experienced as well. I find it
great for DC/Audion work, I would not recommend it for RF stuff.

Ference Kish fkish@attila.mtx.net.au

We never grow up, only our toys get bigger

4111. Re: Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: JohnEly@ia.net
Message-ID: <4qvjdl$1oe@hera.ia.net>
Source record: 104424

Nathan Odle <c670064@showme.missouri.edu> wrote:

>I am attempting to build a project which calls for two 100nH
>(.1mH) and one 75nH (.075mH) air-core inductors.

Nathan,

100nH = 100 X 10**(-9) H = 0.1 X 10**(-6) H = 0.1 uH (not mH)

Note: 1000 nH = 1 uH and 1000 uH = 1 mH

> I have never wound a
>coil before, but I got out my trusty ARRL Handbook and found an
>inductance chart which told me that, assuming 8 Turns Per Inch of no.12
>bare wire with a 1/2" inside diameter with 1/2" leads, I should use 2.5
>turns for the 100nH coils and just shy of 2 turns for the 75nH coil.

Check again, using the conversion factors above. You want 0.1 uH and
0.075 uH, I think. This will save a lot of copper.

> The first question is this: since I don't have any way of
>measuring the inductance of the finished coil to verify these values,
>can someone verify that these are correct?

Ask the author or designer what he used. You may be able to buy these
parts from DigiKey or Moser. Be sure they handle enough current and
don't have self resonances at frequencies that will impair the
operation of the circuit. There just isn,t much coil to get 100 nH.

Or maybe they are just traces on a printed cicuit board.

>The second question is, what
>is no.12 wire? I realize that that second question may make me look
>like an idiot to some of you, but I honestly don't know. I know that
>it's not 12 GAUGE (I *am* smart enough to figure that out), but have no
>clue what else it could be. Can someone help me out with this?

I would say it is 12 AWG wire (American Wire Guage).

> Also,
>does Radio Shaft stock the stuff, or will I have to order it from
>somewhere (as far as electronic components go, there isn't really
>anything BUT RS locally)?

It's often used for house wiring. You can probablly beg some off an
electrician friend or buy some at the lumber yard or hardware store.
You may have to get insulated wire and remove the insulation.

You don't need it for this project.

> I'm kind of at a dead-end until I find out
>what this stuff is. Like I said, probably a stupid question, but I'm
>just starting out at this stuff.

Gotta start somewhere.

> In case you're wondering, I'm building
>a pair of receive preamps using 2 MAR-6 MMIC's for the 10GHz link I'm
>putting together. Thanks to anyone that can help...

Hope this gets you started.

73, John Ely W0GN
Visit the Stone City Web Site http://www.ia.net/~kwradio

4112. Re: Finding permeability of Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4r03j7$keo@newsbf02.news.aol.com>
Source record: 104425

In article <9605278358.AA835894538@mails.imed.com>, mack@mails.imed.COM writes:

>The point to this is that it is *very* important to measure the
>inductance of any unknown core at the frequency where you will use it.
>You need to not only measure the inductance, but the Q as well.
>Ferrites (and powdered iron outside the useful range) may be
>inductive, but the Q may be awful! You need fairly good test
>equipment to do this.

Hi Ray,

Boy, someone from Atlanta really chewed me out (a long time ago) for suggesting the permeability changed with frequency. The vocal expert insisted the insertion of a steel rod in an RF coil would lower the resonant frequency, when it actually raises it.

Another common misconception is steel near a RF tank is worse than something like brass or lead. At radio frequencies, eddy currents cause magnetic effects to disappear. Any type of solid metal conductor jammed up against the tank coil will RAISE the resonant frequency and lower the coil's Q.

You are exactly correct about toroids, denser materials used in ferrites loose permeability with frequency and the permeability shift can even be in a negative direction. The winding can actually look capacitive!

The ARRL Handbook had a steel wool balun that had this exact effect. The common mode impedance was reduced by the steel wool! Exactly opposite the effect desired and intended.

One company in Texas "Tucks" toroids in a TVI filter. Even though the cores are powdered iron, inductance drops through the floor at VHF. When that effect is combined with long leads on disc type caps (they become inductive at VHF!) the low pass filter passes VHF signals pretty good.

I always wonder how well most TV deflection yoke cores work at HF, since the yoke is designed for audio frequencies.

BTW, Q's can be accurately measured (up to perhaps a hundred) with a signal generator (like the MFJ259 analyzer) two Schottkey diodes, two .001 disc caps, a high impedance DVM, and a small mica cap.

On second thought, a person could use the 259 and mica cap alone.

73 Tom

4113. Re: Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: mark@reson.com
Message-ID: <4r069u$poi@daffy.sb.west.net>
Source record: 104426

Nathan Odle <c670064@showme.missouri.edu> wrote:

>[snippage]
>In case you're wondering, I'm building
>a pair of receive preamps using 2 MAR-6 MMIC's for the 10GHz link I'm
>putting together. Thanks to anyone that can help...

MAR-6 is rated for 2 GHz tops. At 10 GHz, I don't think you will get
appreciable gain out of it. Or do you mean 1.0 GHz?

-
Mark Chun | mark@reson.com | Santa Barbara, California

4114. kenwood ts440s data

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: jan.van.lienden@ict.NL
Message-ID: <31D3B327.5C1D@ict.nl>
Source record: 104427

According to the Kenwood manual, you have to send the following command
to get the information from the TS440:

IF;

The rig will answer with the following response:

IF11111111111222223333334567789abcdeef;

Where:

11111111111 is the frequency in Hz;
22222 is the step frequency in Hz (not on TS440);
33333 is the RIT frequency in Hz from -9999 to +9999;
4 is RIT ON/OFF, 0=OFF;
5 is XIT ON/OFF, 0=OFF (not on TS440);
6 is the memory back (not on TS440);
77 is the memory channel;
8 is TX/RX, 0=receive, 1=transmit;
9 is MODE, 1=LSB, 2=USB, 3=CW, 4=FM, 5=AM,
6=FSK, 7=CW-R, 8=TUNE, 9=FSK-R;
a is the function, 0=VFO A, 1=VFO B, 2=MEMORY;
b is SCAN ON/OFF, 0=OFF;
c is SPLIT ON/OFF, 0=OFF;
d is TONE ON/OFF, 0=OFF (not on TS440);
ee is TONE FREQUENCY, from 01 to 38 (not on TS440);
f is OFFSET, 0=SIMPLEX, 1=+, 2=- (not on TS440).

The end character of the command and response is the ';' and not a
carriage return.

If you need more information about the commands and responses, let
me know.

Jan PE1CID

4115. Re: Finding permeability of Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-28 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <RwFyPRA8T90xEwtD@ifwtech.demon.co.uk>
Source record: 104428

W8JI Tom wrote:
>
>I always wonder how well most TV deflection yoke cores work at HF, since
>the yoke is designed for audio frequencies.
>
Rather well, it seems.

G0SNO (RSGB EMC committee) has measured the performance of 14 turns on a yoke core with 29mm inside diameter. The inductance measured at low frequencies was about 70uH. In a 50ohm system the common-mode attenuation peaked to 34dB at 20MHz, and was >20dB from 2-65MHz.

Out of all the branded ferrite rings and clip-on cores he tested, with the numbers of turns optimized to cover the higher HF bands, none of them was more than 6dB better than the yoke core from 1.8-50MHz.
And the yoke core was the only one big enough to take large power cable or coax.

Different TV designers may have used other grades of ferrite, so YMMV.
The nice thing about yoke cores from scrap TVs is that it costs you nothing to find out.

The data are in the latest RSGB Callbook & Information Directory. This kind of information ought to be one of the first things scanned into the new RSGB HQ Web pages (but don't hold your breath).

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4116. Re: Tube CW TX circuit, Xformer and tube socket request

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4r1v4o$cal@crash.microserve.net>
Source record: 104346
Cross-posted to: rec.radio.amateur.homebrew,rec.antiques.radio+phono,rec.tubes

In article <4qfok3$ddk@news3.realtime.net>, cfb@bga.com says...

>The Morse is transmitted by having the Morse key in series with the
>
>Regarding the transformer - I need one with a primary of 110V and either
>a 300V CT to 400V CT secondary OR a 150V to 200V secondary without CT.
>It must be able to deliver 200mA. A separate 6.3V CT > 1A winding will be
>nice, but not essential.
>
>
>
>The 6LR8 is a 9 pin Novar based tube. I have looked for a matching 9 pin
>Novar socket in the catalogs listed above, but to no avail. Does anyone
>know where I might find one of these?
>

>Chris (cfb@bga.com)
Hi chris,
regarding the key, when the key opens the cathode cicuit, the cathode will float positive above ground, but only to the point of tube cutoff. This would be around 50 volts, and not the B+ voltage you may expect to see. If however the tube would internally short, you may see B+ across the key.

As for the tube socket, find a local t.v. repair shop and cut the socket from a dead chassis that they may give to you. Maybe check out MCM catalog or ask at the tv shop "where would they buy such a socket?"

Now for the transformer. I'm sure I have something that would work. Dimensions may be a problem. I'm thinking the units I have are about 3.5 x 3.5 inches or somewhat bigger. Probably about 3 pounds. You can have the transformer, but you pay freight from central Pa. area.

Hope this helps. KD3SH Don 73's

4117. Re: Microwave Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: William W Janssen <billj@calweb.com>
Message-ID: <4r2asl$r1c@news.calweb.com>
Source record: 104347

ESPI35E@prodigy.com (Rod Lane) wrote:
>>I have two mirowave antennas and radomes that I picked up surplus..
>>
>>They are Andrew 48" Diameter dishes and have the markings 47017 and
>>TM0057. Can anyone tell me what freq these are for and if they are
>>worth keeping around.. Any Idea for projects?
>>
>>Please E-Mail me with replies, Bill N0MKJ
>>
>>wrupp@execpc.com
>>www.execpc.com/~wrupp
>
>A dish is a dish is a dish.
>
>Depends on what you feed it with. There are formulas to calculate gain
>vs. frequency of parabolic reflectors. They'd work GREAT at 10.5 GHz,
>but you could just as well use them all the way down to audio frequencies.
> Put your ear in the focal point and you'll be amazed at what you can
>hear at great distances.
>

Well not quite. The accuracy of the surface may not give the gain
you would expect from looking at the size.

The feed has to be designed to match the dish and some dishes are
easier to design for than others.

Otherwise YEP a dish is a dish.

Bill K7NOM

4118. Re: Finding permeability of Toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <59K+nHARmN1xEwAA@ifwtech.demon.co.uk>
Source record: 104348

W8JI Tom wrote:
>In article <RwFyPRA8T90xEwtD@ifwtech.demon.co.uk>, "Ian White, G3SEK"
><G3SEK@ifwtech.demon.co.uk> writes:
>
>>Rather well, it seems.
>>
>>G0SNO (RSGB EMC committee) has measured the performance of 14 turns on a
>>yoke core with 29mm inside diameter. The inductance measured at low
>>frequencies was about 70uH. In a 50ohm system the common-mode
>>attenuation peaked to 34dB at 20MHz, and was >20dB from 2-65MHz.
>>
>>Out of all the branded ferrite rings and clip-on cores he tested, with
>>the numbers of turns optimized to cover the higher HF bands, none of
>>them was more than 6dB better than the yoke core from 1.8-50MHz.
>>And the yoke core was the only one big enough to take large power cable
>>or coax.
>
>Perhaps it's because of the waveshape? The yoke must respond to the very
>fast falling edge of the sawtooth? What think ye?

...so the designers use a higher-frequency grade of ferrite than the simple timebase frequency would suggest? I have no idea! Point is, at least some of the yoke cores seem to work well, so any one that you can catch would be worth trying.

The broadband performance seems to depend on using the optimum number of turns: enough to create the common-mode impedance, but not so many that self-capacitance spoils the performance at the HF end of the range. Judging from G0SNO's extensive measurements, "As many turns as opossible" is definitely NOT the right answer.

Presumably Tom's testing method with the coaxial T-piece and a light bulb would be applicable. (I'd try it today, but the whole workbench is covered with another project :-)

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4119. Re: Plausibility of constructing a decent SWL receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: Rich Griffiths <rgriffiths@monmouth.com>
Message-ID: <31D52E41.6C00@monmouth.com>
Source record: 104349

Alan Holloway wrote:
>
> Hi Everyone,
>
> I'm not a ham, but I figured you guys would know the answer to some of
> my questions. Is it worthwhile to construct a 3-30 MHz receiver
> comparable to, say, a Drake SW-8? By worthwhile, I mean can I get
> schematics, parts, etc., for substantially less than a commercial
> unit? I realize this is a hopelessly open-ended question since I
> haven't given any indication of digital vs. analog signal conversion,
> what sort and number of filters desired, you name it. But I'm just
> testing the waters, just in case building my own is preferable to
> buying a receiver off the shelf.
>
> Thanks,
>
> Alan

If "comparable to" means having the same stability, selectivity, nice case, nice knobs, etc., then I think the answer is NO, you can't do it for substantially less. In fact, unless your a persistent and skilled scrounger, it would probably cost you more than the commercial model.

However, you CAN build a pretty nice receiver for about half the cost of the Drake, but then again so do Sony, Panasonic, Grundig, Sangeaen, ...

One reasonably cheap route I took about ten years ago was to convert an all-tube general-coverage receiver to transistors and ICs (a sacreligious act to some, I suppose). It was fun, easy, educational, and cheap, and it left me with a pretty good quality SWL receiver.

Rich Griffiths W2RG

4120. Re: Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: n2ucn@wa2soc.ampr.ORG
Message-ID: <860@wa2soc.ampr.org>
Source record: 104350

> Date: Wed, 26 Jun 1996 18:47:49 -0600
> From: Nathan Odle <c670064@showme.missouri.edu>
> Subject: Question about winding inductors
>
> I am attempting to build a project which calls for two 100nH
> (.1mH) and one 75nH (.075mH) air-core inductors. I have never wound a
> coil before, but I got out my trusty ARRL Handbook and found an
> inductance chart which told me that, assuming 8 Turns Per Inch of no.12
> bare wire with a 1/2" inside diameter with 1/2" leads, I should use 2.5
> turns for the 100nH coils and just shy of 2 turns for the 75nH coil.
>
> The first question is this: since I don't have any way of
> measuring the inductance of the finished coil to verify these values,
> can someone verify that these are correct?

I can't verify the values for those coils, but November
1993 issue of QST, page 83 has a practical table showing the number of
turns for air core coils, wound around common machine scews, required
for various values of low inductances (16-200 nH). You follow
around the grooves between the screw threads while winding the
coils using the specified wire gauge. The standard design
equations in the ARRL Handbook don't work well for small
values of inductance because of the relation of coil diameter
and wire diameter to relative length of the coil. The table
in the QST article provides data based on actual measurements
made by the author rather than the design equations. #20 (20
AWG) Bell wire or #26 wire-wrap wire are used to build the
coils. For coils requiring values of inducatance between
those shown in the table, you can slightly increase of decease
the length of the coil after winding to compensate if
necessary.

I'm not sure what Bell wire is, but I think it is the cotton
covered stuff that is commonly used to wire household
doorbells. I assume that the cotton is removed before winding
the coil. Maybe someone in the group can help me on this.

> The second question is, what
> is no.12 wire? I realize that that second question may make me look
> like an idiot to some of you, but I honestly don't know. I know that
> it's not 12 GAUGE (I *am* smart enough to figure that out), but have no
> clue what else it could be. Can someone help me out with this?

This is probably 12 AWG wire. Consider that a coil wound with
12 AWG wire will have better Q than one wound with 20 AWG

wire as the article uses.

73 de Chuck, N2UCN

amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

4121. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: rolfe@ldp.com
Message-ID: <4r3ein$shn@rosebud.ldp.com>
Source record: 104351
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In <31D218F3.5CFD@worldnet.att.net>, Clifford Soderback <Cliff-s@worldnet.att.net> writes:

> Almost all older AM broadcast transmitters used 208volt 3 phase
>power. Which is not usually availble at your home.

This is no doubt true of the higher-powered transmitters, but I don't believe it to be true of any of the 1 kilowatt models I'm familiar with. For example, the Collins 20V-2 I recently purchased runs off 220v single phase. The plate transformers normally have primary taps to account for line voltage variations.

> A popular 1 kilowatt output design used by several manufacturers
>was to have a pair of 833A's sometimes modulated by another pair of
>833A's.

True enough. The Collins runs a pair of 4-400s modulated by another pair.

> Now the bad part, all of these old transmitters had PCB
>capacitors in them. Most of the older transmitters have been
>disassembled and the capacitors shipped to a disposal site. If one
>of these caps were to leak or explode it would be a major hazardess
>waste cleanup. The PCB liability was the primary reason these
>transmitters were scraped.

Actually, I question this since it's the *disposal* of PCBs that is the problem. As long as the transmitter is sitting in a barn someplace, there is no problem. I don't know that small AM broadcast stations of the class which would be running 1kw were (or are) terribly concerned about how things are disposed of. I suspect most transmitters are disposed of thusly: If you show up and haul it off, it's yours. Don't forget that the PCB hazard came to light when PCBs were dumped into rivers and entered the food chain. PCBs sitting inside a sealed capacitor are not something to lose any sleep over, unless you plan on eating the capacitor for dinner.

Rolfe
W3VH

--
Rolfe Tessem | Lucky Duck Productions, Inc.
rolfe@ldp.com | 96 Morton Street
(212) 463-0029 | New York, NY 10014

4122. subscribe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: i3ypj@ham.shineline.IT
Message-ID: <1113@ham.shineline.it>
Source record: 104352

add ham-homebrew

4123. Re: Plausibility of constructing a decent SWL receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: Steve_Ratzlaff@smtp.svl.trw.com
Message-ID: <Steve_Ratzlaff-2906960922570001@m41107.svl.trw.com>
Source record: 104353

In article <4qppbe$s2d@geraldo.cc.utexas.edu>, a.holloway@mail.utexas.edu (Alan Holloway) wrote:

>Hi Everyone,
>
>I'm not a ham, but I figured you guys would know the answer to some of
>my questions. Is it worthwhile to construct a 3-30 MHz receiver
>comparable to, say, a Drake SW-8? By worthwhile, I mean can I get
>schematics, parts, etc., for substantially less than a commercial
>unit? I realize this is a hopelessly open-ended question since I
>haven't given any indication of digital vs. analog signal conversion,
>what sort and number of filters desired, you name it. But I'm just
>testing the waters, just in case building my own is preferable to
>buying a receiver off the shelf.
>
>Thanks,
>
>Alan

Everyone has an opinion; I'll give mine. Given enough time and persistence you can build a decent receiver but you will never equal the commercial receivers' bells and whistles, conveniences and packaging that you find in say, a portable Sony ICF-2010, or an Icom R-71 or Drake R8A. You could design a single-band analog VFO receiver for AM SWBC use, but to add a synchronous detector for enhanced reception would greatly complicate the design. If you wanted CW/SSB reception, that would add more circuitry. Don't even think about designing a digital PLL for multiband reception unless you're willing to devote lots of time just to that one section of the radio. My advice is to buy a used radio like the Icom R-71 or Drake R8, use it for several months, then if you're still interested in designing your own, go at it. It'll take you at least a year to put together a homebrew radio, and during that time you will have the enjoyment of a commercial rig. Then, if you lose interest, you'll still have a radio to listen to!

Steve

4124. Re: LORAN C homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: Steve_Ratzlaff@smtp.svl.trw.com
Message-ID: <Steve_Ratzlaff-2906960929030001@m41107.svl.trw.com>
Source record: 104354

In article <4qdloc$s98@cello.gina.calstate.edu>,
wmoyes@cello.gina.calstate.edu (William A Moyes) wrote:

> Does anyone have designs for a homebrew LORAN reciever? All I
>need is the antenna/filter/RF amp stages, the processing steps should be
>easy. Thanks!
>
> -William Moyes
> wmoyes@cello.gina.calstate.edu
> KC6ARO

I have all the Burhans articles; if you'll pay copying/postage I'll be
happy to send to you; it all runs probably about 30 pages total. I've used
the Burhans active whips for lofer/NDB listening--they work very well.
Steve

4125. Re: How do I determine the permeabilty of an unknow ferrite core?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: Steve_Ratzlaff@smtp.svl.trw.com
Message-ID: <Steve_Ratzlaff-2906961003530001@m41107.svl.trw.com>
Source record: 104355

In article <4qlbpf$t1v@dfw-ixnews5.ix.netcom.com>,
tmahanna@ix.netcom.com(Thomas R Mahanna) wrote:

>Is there some quick and dirty method to do so, using a generator and a
>couple of windings? Or is there a chart of colors/marks that would
>identify them. I have a drawer full of ferrites scrouged out of old
>equiptment that I would like to use.
>
>-Tom

Taking your initial sentence literally, "ferrite core", you must
differentiate between iron powder cores versus ferrite cores. It's
somewhat easier to determine an iron powder core, as almost all are
color-coded, whereas most ferrite cores are unpainted, natural black. I
recommend getting the free flyer from Amidon, who sells iron powder and
ferrite cores. Their literature has extensive information on the different
types of cores, plus the color coding of the iron powder cores.
(Amidon,Inc. 3122 Alpine Av, Santa Ana, CA 92704, 714-850-4660).
Identifying ferrite cores is difficult. I have spent hours trying to
identify unknown cores purchased from local surplus outlets. Ferrites
don't lend themselves to testing by finding the resonant frequency with a
parallel capacitor since they are very low Q, broadband devices. Ferrite
permeability changes with frequency too; any inductance you measure has to
be related to the specific frequency you measured it at. Identifying iron
powder cores is only a little easier, only if you can correlate the core
color to a known core's color. At least for iron powder you can make a
parallel resonant circuit and determine a rough permeability that way. In
my tests on unknown iron powder cores, I've been able to correlate within
about 35% to a known core's stated characteristics. For ferrite cores, I'm
fortunate to have access at work to a lab inductance meter where you can
set in a specific frequency to test at. I have known cores to compare to.
I wind one turn thru the core and measure its inductance at a specific
frequency, then compare the result to my known cores. Sometimes you can
get a match and identify the ferrite core.
The June 1996 issue of "Electronics Now" magazine has an article for an
L/C meter kit which I purchased. I am very happy with it. It offers the
ability to measure very small values of inductance, which other
hobby-grade meters do not have. A complete kit is $80; an assembled unit
is $100.
Good luck!
Steve

4126. Re: toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: Steve_Ratzlaff@smtp.svl.trw.com
Message-ID: <Steve_Ratzlaff-2906961017420001@m41107.svl.trw.com>
Source record: 104356

In article <4q8mt4$kr8@rigel.rz.uni-ulm.de>,
DeGu@pcpool1.informatik.uni-ulm.de wrote:

>Hello there!
>
>I'm developing a transceiver and - since I will have to implement
>filters - I need information on toroids. Somehow I can't find anything
>
>on the Web on toroids. I'm interrested in Amidon and Neosid products.
>Please let me know the relevant netsites/addresses.
>Thanks,
>Guido DL5MGU
>
>gmelo@hydra.informatik.uni-ulm.de

Ask for Amidon's free flyer that has extensive info on toroids:
Amidon, Inc. 3122 Alpine Ave., Santa Ana, CA 92704 714-850-4660, fax
714-850-1163.

Steve

4127. Ham Radio Online - June and July 1996

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4r4789$nas@news.accessone.com>
Source record: 104357
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

For June, we've run over a dozen articles and we already have at least that many in the queue for July. Stop on by and enjoy some good clean ham radio fun at Ham Radio Online. Always free at
http://www.accessone.com/~vbook/hronline.htm

(and if that is a mouthful of a URL, we will soon be introducing a much easier URL to remember!)

Original articles, newsletters from throughout the world of amateur radio, free unclassified ads, real-time radio propagation and auroral conditions, real-time disaster communication information and so much more.

Have fun!

Tnx and 73,
Ed

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.accessone.com/~vbook/hronline.htm

4128. FS Bolometers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-29 00:00:00 UTC
From: pgerba@crl.com
Message-ID: <4r56jl$fmf@crl9.crl.com>
Source record: 104358

General Microwave MX-2144 $35, HP 477B $35, HP 8478B $225 .. add packing and shipping costs. I have several of each of these tested heads.

pete
pgerba@crl.com

4129. Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-30 00:00:00 UTC
From: n2ucn@wa2soc.ampr.ORG
Message-ID: <20220@wa2soc.ampr.org>
Source record: 104359

Date: Fri, 28 Jun 96 20:15:04 EST
Message-Id: <860@wa2soc.ampr.org>
From: n2ucn@wa2soc.ampr.org (Charles Curtis)
To: Ham-Homebrew@ucsd.edu
Subject: Re: Question about winding inductors
Lines: 51
X-Mailer: PCElm 3.21

> Date: Wed, 26 Jun 1996 18:47:49 -0600
> From: Nathan Odle <c670064@showme.missouri.edu>
> Subject: Question about winding inductors
>
> I am attempting to build a project which calls for two 100nH
> (.1mH) and one 75nH (.075mH) air-core inductors. I have never wound a
> coil before, but I got out my trusty ARRL Handbook and found an
> inductance chart which told me that, assuming 8 Turns Per Inch of no.12
> bare wire with a 1/2" inside diameter with 1/2" leads, I should use 2.5
> turns for the 100nH coils and just shy of 2 turns for the 75nH coil.
>
> The first question is this: since I don't have any way of
> measuring the inductance of the finished coil to verify these values,
> can someone verify that these are correct?

I can't verify the values for those coils, but November
1993 issue of QST, page 83 has a practical table showing the number of
turns for air core coils, wound around common machine scews, required
for various values of low inductances (16-200 nH). You follow
around the grooves between the screw threads while winding the
coils using the specified wire gauge. The standard design
equations in the ARRL Handbook don't work well for small
values of inductance because of the relation of coil diameter
and wire diameter to relative length of the coil. The table
in the QST article provides data based on actual measurements
made by the author rather than the design equations. #20 (20
AWG) Bell wire or #26 wire-wrap wire are used to build the
coils. For coils requiring values of inducatance between
those shown in the table, you can slightly increase of decease
the length of the coil after winding to compensate if
necessary.

I'm not sure what Bell wire is, but I think it is the cotton
covered stuff that is commonly used to wire household
doorbells. I assume that the cotton is removed before winding
the coil. Maybe someone in the group can help me on this.

> The second question is, what
> is no.12 wire? I realize that that second question may make me look
> like an idiot to some of you, but I honestly don't know. I know that
> it's not 12 GAUGE (I *am* smart enough to figure that out), but have no
> clue what else it could be. Can someone help me out with this?

This is probably 12 AWG wire. Consider that a coil wound with
12 AWG wire will have better Q than one wound with 20 AWG
wire as the article uses.

73 de Chuck, N2UCN

amprnet: n2ucn@wa2soc.ampr.org internet: chuck@ham.hsix.com
ax25 : n2ucn@wa2soc.#nnj.nj.usa.na internet: ccurtis@itt.com

4130. Wanted: Kenwood TM631A remote control info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-30 00:00:00 UTC
From: rkoblish@aol.com
Message-ID: <4r507b$f4q@newsbf02.news.aol.com>
Source record: 104360

Can anyone tell me the protocol for controlling the TM621/721 remotely via the mic connector? I know KW used to sell a remote ctrl accessory that looked like a cellphone handset. I believe that that device connected to the mic connector and gave you full control over the radio.

No specific application yet, but some ideas:
1. remote base
2. hide the radio in the car and build an ugly-yet-functional remote control so the thieves don't get ideas.
3. computer control, more memories or whatever.

BTW, Kenwood's website was useless on older gear. They do have service bulletins in .jpg format on their ftp server, though.

tnx,
Bob N3HAT

4131. Need help in building a 2 M mobil antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-30 00:00:00 UTC
From: anarchyu@olywa.net
Message-ID: <31d60c32.2371491@news.olywa.net>
Source record: 104361

Howdy..

I want to build my own 2 meter antenna for my handheld radio which i will be using in my truck.. I am on a extremly tight budget (i mean i have like 20 bucks i can spend) i have a bunch of connectors and such that i have from a antenna i made that plugs right onto my radio and that works great, but doesnt work great when i am driving. I have a large rectangular magnet (which i can cut to size) for making it magnet mountible. If anyone has an IDEA or drawing or something they can send me that may help, PLEASE e-mail me at KC7QZR@olywa.net and tell me!!

I also have a supply (60 feet or so) of 12 gauge copper house wire (new never used) if that would work for part of the antenna.

Thanx for any help you can give!!

Brad

_\\|//_
(` o-o ')
--------------------------------ooO-(_)-Ooo--------------------
KC7QZR
KC7QZR@olywa.net .oooO Oooo.
www.olywa.net/anarchyu ( ) ( )
------------------------------\ (-------) /-------------------
_) (_/
Proud to say I am a Member of the Capitol Peek Repeater Group!
145.470 - Tumwater Wa.

4132. Re: Motorola Visar RIB sw needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-30 00:00:00 UTC
From: Radioactive Communications <radio3@village.ios.com>
Message-ID: <31D6201B.6A0F@village.ios.com>
Source record: 104362
Cross-posted to: rec.radio.swap,rec.radio.noncomm,rec.radio.cb,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.space

Nino Cvetkovic wrote:
>
> I can offer RIB software for almost every other Motorola in exchange.
>
> Nino
Nino I'm sure that the Motorola people over in Plantation Florida are
thrilled to know that you are offering illegally pirated copies of their
RSS over the net!!! Really smart!!!

4133. WTB: seconed-hand TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-30 00:00:00 UTC
From: gzluhuih@public1.guangzhou.gd.CN
Message-ID: <31D686EE.689D@public1.guangzhou.gd.cn>
Source record: 104363

hi de bd7ix name is Lu Hui-Hua from P.R.CHINA. now i am looking for
seconed-hand TNC for my ICOM-706. and i want it can use by HF BAND,
all capability is ok, it is undersell too. where can find it? please .

Lu Hui-Hua(bd7ix)
bd7ix@amsat.org

4134. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-30 00:00:00 UTC
From: jharper@bs2000.com
Message-ID: <4r69mk$6s@news-2.csn.net>
Source record: 104364
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <4r3ein$shn@rosebud.ldp.com>, rolfe@ldp.com (Rolfe Tessem) wrote:
>In <31D218F3.5CFD@worldnet.att.net>, Clifford Soderback
> <C

<snip>

>
>> Now the bad part, all of these old transmitters had PCB
>>capacitors in them. Most of the older transmitters have been
>>disassembled and the capacitors shipped to a disposal site. If one
>>of these caps were to leak or explode it would be a major hazardess
>>waste cleanup. The PCB liability was the primary reason these
>>transmitters were scraped.
>
>Actually, I question this since it's the *disposal* of PCBs that is
>the problem. As long as the transmitter is sitting in a barn
>someplace, there is no problem. I don't know that small AM broadcast
>stations of the class which would be running 1kw were (or are)
>terribly concerned about how things are disposed of. I suspect most
>transmitters are disposed of thusly: If you show up and haul it off,
>it's yours. Don't forget that the PCB hazard came to light when PCBs
>were dumped into rivers and entered the food chain. PCBs sitting
>inside a sealed capacitor are not something to lose any sleep over,
>unless you plan on eating the capacitor for dinner.
>
>Rolfe
>W3VH
>
>

I am certainly no lawyer -- but, I THINK that the current laws, passed by our wonderful Congress and signed by our wonderful Presidents (Bush/Clinton et. al.) state that if you sell "contaminated" land that the seller is forever liable for the cost of cleanup. Therefore -- your PCB laden transmitter leaks; you sell the land to someone; 20-years from now, 1 part per billion PCB is detected; -- you are liable for $5-million to get the stuff cleaned up.

I think that I am right.

BTW -- there is a similar "problem" with R390 receivers with "radioactive" dials that glow in the dark.

Regards

Jack

Jack Harper Bank Systems 2000, Inc.
e-mail: jharper@bs2000.com 350 Indiana Street, Suite 350
voice: 303-277-1892 fax: 303-277-1785 Golden, Colorado 80439

"21st Century Financial Applications"
Optical Cards for Bank, EBT, and Medical Applications
Visit our Web Page: http://www.bs2000.com/talos

4135. NORTHSTAR 800 ANTENNA COUPLER INFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-30 00:00:00 UTC
From: fsimonds@icanect.net
Message-ID: <4r6lhd$i88@news.icanect.net>
Source record: 104365

Does anyone out there have the schematic for the Northstar 800 Loran antenna coupler? In particular, I'm interested in the Level-2 version.

Thanks 73--Terry/WB4FXD

4136. Re: HF Emergency - An Ex

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-06-30 00:00:00 UTC
From: ed.welch@cheaha.com
Message-ID: <8C38414.040A00084F.uuout@cheaha.com>
Source record: 104366

-> B ->Don't the phones need electrical power to work? I know that when
-> power in >my house goes out, the phone still works, but not if it
-> works both ways:
-> >I know we can call the power company and tell them, but can people
-> also
-> >call in to us? I'd assume not, the ringer wouldn't work?
->
-> The phones (except cordless) will still work, the dialing and
-> ringing power is provided from the plant (central exchange) and they
-> have backup batteries (truck batteries with a pituitary problem) and
-> generators to provide power when commercial power fails.

Well, from personal experience with hurricane OPAL here in Crenshaw
County, Alabama the phones will work after loss of power......for a
while. Once the batteries go down, though, it's all over with. For
most of the day after OPAL came through we had great service, matter of
fact we used the phone as the eye passed through our area that night.
Later that afternoon they went out. We were fortunate, we were only
out of phone service for about 5 days. FWIW.

ed.welch@cheaha.com

4137. Re: Question about winding inductors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.264.000A7B36@TRL.OZ.AU>
Source record: 104367

>> Subject: Question about winding inductors>> I am attempting to build a project which calls for two 100nH and one 75nH) air-core inductors. I have never wound a >> coil before, but I got out my trusty ARRL Handbook and found an >> inductance chart which told me that, assuming 8 Turns Per Inch of no.12 >> bare wire with a 1/2" inside diameter with 1/2" leads, I should use 2.5 >> turns for the 100nH coils and just shy of 2 turns for the 75nH coil. >> The first question is this: since I don't have any way of >> measuring the inductance of the finished coil to verify these values, >> can someone verify that these are correct?

If you can obtain a dip oscillator; connect a 200pF or 100 pF 1% or 2% tolerance silver mica capacitor in parrallel with your coil. Couple the dipper coil to the unknown coil- about 2 or 3 inches distance between, and on a common axis. Measure the frequency of the pair by searching for the resonant dip. Note the frequency.

Handy formula; Unknown inductance L uH = 25330 divided by (f sq MHz x C pF)

and

Unknown capacitance C pF = 25330 divided by (f squared MHz x L uH).

Example; You measure the resonant frequency of your unknown coil parallel with 200 pF capacitor to be 35 MHz;

L uH = 25330 divided by (35 x 35 x 200) = 0.103 uH or 103 nH.

73 Drew, VK3XU.

4138. Re: Question regarding RX/TX switching on 50 CW TX

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: ddiamond@TRL.OZ.AU
Message-ID: <ddiamond.265.000B2141@TRL.OZ.AU>
Source record: 104368

>My questions are these:>- Are there any gotchas when using> normal, sturdy xPDT relays for this type of thing at the mentioned> power and frequency? Will the receiver be blown off the table on> transmission (or be deaf when switching back to RX mode)?>- Is it better to leave the RX antenna center conducter floating when> in TX mode, or should it be shorted to the chassis? Which will> result in less TX energy leaking into the receiver antenna? Chris.

You nearly answered your own question. I doubt that you will "blow the RX off the table"- although the signal will be very strong. Use a second set of contacts on your antenna change-over relay to ground the receiver coax input. In practice- on CW you can simply turn the RX RF gain down on transmitting sessions with your spare hand. The great advantage of the system is that you have virtual "off-air" signal quality monitoring, which normally is not provided with store-bought transceiver operation.

Congratulations on making the effort to build your own.

73, Drew, VK3XU.

4139. Goodies For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: NC7K@VHF.RENO.NV.US
Message-ID: <199607010608.XAA19783@UCSD.EDU>
Source record: 104369

I recently aquired some Microwave test equipment, Antique Test Gear, and misc components from a state agency thats downsizing and wonder if anyone might be interested in any of the following....

Local State Agency downsizing and reducing inventory and excess gear, So I find myself the proud new owner of much Microwave gear and no need for it. List as follows....

2 EA - AN/UPM-12A Microwave test sets, Very good physical Condx as they are in transit cases. SWR Indicater / Frequency Meter, etc with Manuals and some accessories.

1 EA - TS-155C/UP Microwave Signal Generator, Great physical condx due to its in a transit case. With manuals and some accessories.

1 EA - Polarad Wide Dispersion Spectrum Analyzer Model #SA-84WA, 10 Mhz - 63.680 Ghz Range, Great physical condition with full documentation and service manual.

1 EA - Narda Model #802 Microwave Frequency Meter in very good shape. No Manuals.

1 EA - Metrodata # TR10 RCVR & # TD13 Telemitry decoder. Tunes 395 - 415 Mhz with 2 VFOs. Each in very good physical condx with manuals.

1 EA - Meuller 8069-B Laboratory grade Temperature Bridge. Antique in beautiful wood cabinet. Magnificent workmanship. In very good physical condx with service/operation manuals and documentation.

1 EA - General Radio Type 554-B Antique Megohm Bridge in wooden cabinet. Good physical condx with documentation.

1 EA - Model "S" Antique DC Microampmeter by Sensitive Research Instrument Corp. Very Good Physical Condx but no manual.

1 EA - MX-1309/urm-23 Microwave Power measuring kit W/Transit case in excellent condition.

1 EA - Bendix Aviation Nose Radar antenna assembly, 22" aluminum dish on very compact AZ/EL drive with feed and waveguide assembly that allows dish to rotate and still work. Very Good Physical condition.

1 EA - 3 Meter Spun Aluminum dish (Solid) with mounting ring on back. In good shape with minor dings.

1 EA - High Power Xtal Controled HF transmitter running 4 conduction cooled 7939's on 13.56 Mhz. As IS for parts.

Many other assorted bit and pieces too numerous to list...

Those interested can contact me at NC7K@VHF.RENO.NV.US for more information.

Tim Marek, NC7K
Reno, NV

4140. Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: KC7QZR@olywa.net
Message-ID: <61e7cc$173112.3a2@MYCROFT>
Source record: 104370
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Howdy..

I have a few Questions...

I need info on building a Mobil Mag mount antenna for my Truck to use with my HTX-202..

I have been given some advice, but i am looking to build something cheap but looks NORMAL, someone told me to use a coat hanger, etc ..

I have 12 guage wire i can use, but need a little info, what length should i cut it at, to use it at 145.470 (local Repeater) I dont have any kind of swr meter or anything but my radio which will let me know when its pumping out full power...

any help will be most apprecaited (text files. urls. graphics, drawings , etc,, attach then to a e-mail please!!)

ALSO

I am looking for some ham mailing lists.. i am starting one for my areas repeater.. (for the members who have e-mail accounts..) and would like to join a few and echo some good info etc...

Please let me know how to subscribe to those..

THANX!!!

Brad
KC7QZR@olywa.net
_\\|//_
(` o-o ')
------------------------------ooO-(_)-Ooo--------------------
KC7QZR
KC7QZR@olywa.net .oooO Oooo.
www.olywa.net/anarchyu ( ) ( )
------------------------------\ (-------) /------------------
_) (_/
Proud to say I am a Member of the Capitol Peek Repeater Group!
145.470 - Tumwater Wa.

4141. Data on RG-34 coax?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199607011347.JAA27990@service1.cc.uky.edu>
Source record: 104371

Anyone have data on RG-34 coax. It is at least twice the diameter of RG-8.
I had seen a listing of data for various coax cables some time ago but lost it.

73
Bill wa4lav was ko4ww

4142. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul1.160514.17867@ke4zv.atl.ga.us>
Source record: 104372
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <61e7cc$173112.3a2@MYCROFT> KC7QZR@olywa.net writes:
>Howdy..
>
>I have a few Questions...
>
>I need info on building a Mobil Mag mount antenna for my Truck to use
>with my HTX-202..
>
>I have been given some advice, but i am looking to build something
>cheap but looks NORMAL, someone told me to use a coat hanger, etc ..
>
>I have 12 guage wire i can use, but need a little info, what length
>should i cut it at, to use it at 145.470 (local Repeater) I dont
>have any kind of swr meter or anything but my radio which will let me
>know when its pumping out full power...

You can make a whip from just a 19 inch length of wire and a coax
connector, IE take a PL-259, solder the wire to the center pin,
and slip a piece of shrink wrap down over it so it can't touch
the outer wall of the connector (filling the cavity with epoxy
is even better). However, for mobile use you really want something
other than copper wire. It would be deformed with every tree branch
impact. What you want is copper plated music wire, with perhaps
an anti-corrosion nickel overplate. That's what commercial whips
are made of. Fortunately, these are cheap. You can get replacement
whips from many sources, often for only $2-$4. You can similarly
solder these whips into a PL-259 if you sand down to the copper
plate first. Your mount is just a SO-239 fixed to a plate attached
to a magnet.

There are enough variables in antenna mounting to make a ruler
measurement insufficient. You really need to borrow a meter to
trim the antenna on frequency. However, the HT is fairly insensitive
to SWR (since it usually has to work with a rubber duck which may
have a wildly varying SWR depending on how and where you are holding
it). So the antenna will work even if you don't trim it exactly to
frequency.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org

Lawrenceville, GA 30244 | |

4143. Amateur radio bulletin board systems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: nwdirect@netcom.com
Message-ID: <nwdirectDtvHCp.ItF@netcom.com>
Source record: 104373

Did you know that there are Bulletin Board Systems (BBSes) that are oriented toward amateur radio? Well, there are quite a few of them and we are adding new listings all the time.
To find out where they are located, point your web browser to: http://www.vni.net/thedirectory and go to the "search engine." Enter the words "amateur radio" (and in a different search enter "ham"). It will return a list of area codes where the boards are located. Click on the links to go the individual area code listings.
Remember to return about once a month as we regularly find and list new boards devoted to amateur radio. There are also BBSes devoted to a wide variety of other topics that you may find of interest.

--
****
* *
* Looking for a BBS or an Internet Service Provider? Look no further! *
* http://www.vni.net/thedirectory - largest directory on the web *
* over 47,000 listings & growing - over 4,400 Internet Providers *
* "The Sysops Corner" - search engine - over 800 telnet BBSes *
* See what you are missing. Call a BBS today! *
****

4144. RF/Microwave CAE Site

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: "Kathryn J. Goerg" <kgoerg@webblabs.com>
Message-ID: <31D819BD.74B@webblabs.com>
Source record: 104374

The Webb Laboratories RF/Microwave CAE Site is at:

http://www.webblabs.com

Please inspect our receiver engineering, structure synthesis
and active filter design capabilities.

Kathy Goerg
Webb Laboratories
kgoerg@webblabs.com

4145. Mobile antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: jorgegc@lander.es
Message-ID: <4r9efo$g5f@lince.lander.es>
Source record: 104375
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.homebrew

Dear friends, i am very interested in buying or building a mobile antenna for hf (20, 40 & 80 metres). please any offers or ideas. could be exchanged for any material or anything of your interest from my country. please also offers on base verticals for hf.
I actually use a windom wire aerial about 41 metres long, please tell ideas for improving the system. the fed point with a 1:6 balum is about 9 meters high and the end points about 3 meters high and i have about 2 or 2,5:1 swr in all bands but work better on the warc bands (�?). It should be working without the need of a tuner ATU, but I use it always.....The long part is pointing East and the short one is pointing West. Some people says that it has some directivity through the long wire, but most says that the directivity is perpendicular to the dipole. Any help on this.

EA5VD Francisco
P.O.Box 123
E-46080 Valencia Spain

```
/|\
@ @
-----oOO-(_)-OOo----------------------------------------------------------
e-mail: jorgegc@lander.es
```

4146. Question on J-pole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: pchow@cisco.com
Message-ID: <4r9lpr$peq@cronkite.cisco.com>
Source record: 104376

Someone told me that there was an article in QST on how to make your own J-pole. Did anyone know which issue is that?

Thanks.

Peter

4147. Re: More toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-01 00:00:00 UTC
From: rst@tetrault.com
Message-ID: <rst-0107962037590001@squaw-d21.sierra.net>
Source record: 104377

Don't forget that the mix versus frequency differences are really only applicable to tuned circuits where the cores are part of a tank. In broadband applications such as transformers the 43 and 61 materials are capable of operation into the hundreds of MHz, depending on the design.

4148. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: TW Morey <capngoat@planet.net>
Message-ID: <31D8A55E.1C8@planet.net>
Source record: 104280
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Gary Coffman wrote:
>
> In article <61e7cc$173112.3a2@MYCROFT> KC7QZR@olywa.net writes:
> >Howdy..
> >
> >I have a few Questions...
> >
> >I need info on building a Mobil Mag mount antenna for my Truck to use
> >with my HTX-202..
> >
> >I have been given some advice, but i am looking to build something
> >cheap but looks NORMAL, someone told me to use a coat hanger, etc ..
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> >I have 12 guage wire i can use, but need a little info, what length
> >should i cut it at, to use it at 145.470 (local Repeater) I dont
> >have any kind of swr meter or anything but my radio which will let me
> >know when its pumping out full power...
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> connector, IE take a PL-259, solder the wire to the center pin,
> and slip a piece of shrink wrap down over it so it can't touch
> the outer wall of the connector (filling the cavity with epoxy
> is even better). However, for mobile use you really want something
> other than copper wire. It would be deformed with every tree branch
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> are made of. Fortunately, these are cheap. You can get replacement
> whips from many sources, often for only $2-$4. You can similarly
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> it). So the antenna will work even if you don't trim it exactly to
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>
> Gary
> --

> Gary Coffman KE4ZV | You make it, | Due to provider problems
> Destructive Testing Systems | we break it. | with previous uucp addresses
> 534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
> Lawrenceville, GA 30244 | |

Dear Gary,

Check out the article on the "Steath" antenna reviewed in this month's
CQ Magazine. I wouldn't say it's indestructable, but it's the best so
far.
--
TW Morey | "Without others there is no self, and
Flanders, NJ | without somewhere else there is no
| here, so that -- in this sense -- self
capngoat@planet.net | is other and here is there." A. Watts

4149. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: TW Morey <capngoat@planet.net>
Message-ID: <31D8A3DB.5BCF@planet.net>
Source record: 104281
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Gary Coffman wrote:
>
> In article <61e7cc$173112.3a2@MYCROFT> KC7QZR@olywa.net writes:
> >Howdy..
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> Gary Coffman KE4ZV | You make it, | Due to provider problems
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Check out the Review article in this month's CQ Magazine on a
"Steath" mobile antenna.

--
TW | "Without others there is no self, and
Flanders, NJ | without somewhere else there is no
| here, so that -- in this sense -- self
capngoat@planet.net | is other and here is there." A. Watts

4150. Homebrew FSK modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: Kevin Pounders <pounders@qtm.net>
Message-ID: <31D8D2A8.D6B@qtm.net>
Source record: 104282
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I am trying to build an FSK modem for use on 2M packet, but the plans I have calls for a TI TCM3105 FSK modem chip.

I have contacted all of the component suppliers that I know but am unable to locate this chip (is now obsoulite). The one exception had a minimum order of 20 pieces.

Alternatively, I am able to aquire either a Motorola MC14412 or a MC6860, but cannot find the data sheets for these chips.

If anyone can help me locate any of the above item, I would greatly appreciate it.

73,
--

Kevin Pounders, KC8AFW
pounders@qtm.net

4151. Re: Simple microwave transceiver information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4rarp0$3igg@info4.rus.uni-stuttgart.de>
Source record: 104283

In article <31d5fe39.12640494@NEWS.LANMINDS.COM>, <g-aid@lanminds.com> wrote:
>For practical information on microwave transceiver construction,try to
>get hold of the "VHF-UHF Manual" by D.S. Evans and G.R. Jessup,
>published by the Radio Society of Great Britain

For anything but research in amateur radio history the book
is largely useless. Even when the current edition came out
10 years ago, some designs given were obsolete.
It is well written though and I like it, but I can not recomend
it as an introduction.

73, Moritz DL5UH

4152. Help with FOXHOLE RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: lewissys@ix.netcom.com
Message-ID: <4rb6f2$b7b@dfw-ixnews5.ix.netcom.com>
Source record: 104284
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

A few weeks ago, I casually read some posts about making a foxhole radio using a razor blade as a rectifier. Last weekend, I fell into possession of a Gillette double edge blade with a sky blue finish still in the original wax paper. Is this the type I need? If so, can someone give me enough details to make an authentic one? Also, any documentation, anectdotes, or facts that would help to make it an educational display would be appreciated.

73 de KJ5WA

4153. crystal source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: Matthew Halsey <matthew.halsey@intelsat.int>
Message-ID: <4rb4u7$ufp@intelsat2.intelsat.int>
Source record: 104285

Hi,

Does anyone know of a good source of economically priced crystalsa?
I have an old PMR radio which I want to crystal up for a local repeater here in
Gaithersburg,
MD.

Tks & 73s

Matt W3/G0IHG

matthew.halsey@intelsat.int
--
INTELSAT

4154. 9 Pin Novar Socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9606028363.AA836328279@mails.imed.com>
Source record: 104286

Someone was recently looking for a Novar socket for a transmitter project. You can get these for (hold your breath) $3.45 at

RF parts
435 South Pacific ST
San Marcos, CA 92069

There is no minimum but there is a minimum shipping of $2 if you order by check. There is a $25 minimum if you order by phone.

The part number for the Novar socket is SK9.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

4155. Re: Simple microwave transceiver information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: landisj@nad.com
Message-ID: <1996Jul2.092045.570@main03>
Source record: 104287

In article <31d5fe39.12640494@NEWS.LANMINDS.COM>, g-aid@lanminds.com writes:
> For practical information on microwave transceiver construction,try to
> get hold of the "VHF-UHF Manual" by D.S. Evans and G.R. Jessup,
> published by the Radio Society of Great Britain (their counterpart of
> thr ARRL). Try your local university/engineering library.
>
> Although first published in the 70s, the material is quite relevant
> for beginners and the book might still be in print. To order, try
> writing the RSGB at 35 Doughty Street, London WC1N 2AE, England.

For the USA reader, it was also still available from the ARRL bookstore, the last time I noticed. The RSGB Microwave Handbooks are also excellent - Vol 3 in particular. It's a bit more up to date, too.

Joe - AA3GN
--
landisj@nad.com - speaking only for myself, of course
No, this is not a sig.

4156. Data on RG-34 coax?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: ccurtis@avionics.ITt.COM
Message-ID: <31D95242@avint4.avionics.itt.com>
Source record: 104288

Date: 1 Jul 96 13:47:45 GMT
From: wlfuqu00@service1.UKy.EDU (William L. Fuqua III)
Subject: Data on RG-34 coax?

Anyone have data on RG-34 coax. It is at least twice the diameter of RG-8. I had seen a listing of data for various coax cables some time ago but lost it.

73
Bill wa4lav was ko4ww

RG-34 is 1.6 times the diameter of RG-8 and has the same construction as RG-8. RG-34 has a characteristic impedance of 75 ohms unlike RG-8 which is 50 ohms. RG-34 has slightly less loss than RG-8, 2.1 dB vs 2.7 dB per 100 ft. at 200 MHz. At 3 Ghz, the losses of RG-8 and RG-34 are the same at 16 dB per 100 ft.

73 de Chuck, N2UCN

4157. Question about time SW time code format

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4rbl6g$roa@newsbf02.news.aol.com>
Source record: 104289

The other night I was messing around with my shortwave, listening to the time signals (10Mhz I think?) Anyway....nearing the top of every minute, the ticking sound is replaced (for 5 or 10 seconds) with a pulsing screech, like the sonar sound in a old submarine movie. Is this FSK data?

Does anyone know the format of this data (frequencies, bit structure, etc)?
Just curious---

P.S.....Please email with your thoughts.
/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

4158. Re: Homebrew FSK modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4rbjhc$m1i@newsgate.sps.mot.com>
Source record: 104290
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Try this for Motorola component data:

Motorola Literature Distribution Center
P.O. Box 20912
Phoenix AZ 85036
800-441-2447

http://www.mot.com

4159. Re: crystal source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: Matthew Halsey <matthew.halsey@intelsat.int>
Message-ID: <4rbmvp$am@intelsat2.intelsat.int>
Source record: 104291

By the way, the frequencies I require are 12.19625 MHz and 13.13792 MHz.

Tnx & 73
Matt W3/G0IHG

--
INTELSAT

4160. Re: LORAN C homebrew?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: Tom Van Baak <tvb@zso.dec.com>
Message-ID: <4rbrp9$qh4@usenet.pa.dec.com>
Source record: 104292

See loran.tar.Z in http://www.eecis.udel.edu/~ntp/ntp.html

4161. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: Rolfe Tessem <rolfe@ldp.com>
Message-ID: <31D97E7E.63DE@ldp.com>
Source record: 104293
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

> I am certainly no lawyer -- but, I THINK that the current laws, passed by our
> wonderful Congress and signed by our wonderful Presidents (Bush/Clinton et. al.)
> state that if you sell "contaminated" land that the seller is forever liable for
> the cost of cleanup. Therefore -- your PCB laden transmitter leaks; you sell the
> land to someone; 20-years from now, 1 part per billion PCB is detected; -- you
> are liable for $5-million to get the stuff cleaned up.

The point is that PCBs that are safely sealed inside transformers or capacitors are no hazard whatsoever. What do you think is inside all those pole transformers you see up in the air? The PCB problem is that GE dumped tons of the stuff into the Hudson and Housatonic rivers over a period of years. You are not going to have a PCB problem from a sealed transformer or capacitor, even if one should happen to leak on your garage floor. I have a number of oil-filled capacitors and transformers and, although I may lose sleep over a lot of things, this is not one of them.

Rolfe
W3VH

--
Rolfe Tessem | Lucky Duck Productions, Inc.
rolfe@ldp.com | 96 Morton Street
(212) 463-0029 | New York, NY 10014

4162. Re: Help with FOXHOLE RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4rbu01$jj2@sjx-ixn5.ix.netcom.com>
Source record: 104294
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <4rb6f2$b7b@dfw-ixnews5.ix.netcom.com>
lewissys@ix.netcom.com(Charles E. Lewis) writes:
The article on this was in Hands on Electronics I think, about 5 years
ago. I will see if I still have it.

The razor blade is the correct one with one minor detail, the blade
needed to be used, with the hot spot being next to the corrosion. Use
a pencil lead for the pickup, an old drawing compass is a good way to
mount the lead.

As for the construction follow any crystal radio direction, make it
work with a germanium diode, then replace the diode with the razor
blade setup.

Good Luck\
Sparky KI5GY

>
>
> A few weeks ago, I casually read some posts about making a foxhole
>radio using a razor blade as a rectifier. Last weekend, I fell into
>possession of a Gillette double edge blade with a sky blue finish
still
>in the original wax paper. Is this the type I need? If so, can
>someone give me enough details to make an authentic one? Also, any
>documentation, anectdotes, or facts that would help to make it an
>educational display would be appreciated.
>
> 73 de KJ5WA

4163. Need Yaesu FRG-9600 Schematic!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: Teresa & Paulo Campos <campos@relay.ua.pt>
Message-ID: <31D98462.187F@relay.ua.pt>
Source record: 104295

I have just bought an used Yaesu FRG-9600. I need the schematic for
trying to change the intermediate filter or to add an external module
for weather sats reception.
I would appreciate (and pay expenses) if someone shares it...

Thanks and 73,
Paulo, CT1EFS

campos@relay.ua.pt

4164. Found: Good 3rd pty dr press f/Dremel

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: mcovingt@ai.uga.edu
Message-ID: <4rcc96$5js@hobbes.cc.uga.edu>
Source record: 104296
Cross-posted to:
rec.crafts.metalworking,sci.electronics.repair,rec.radio.amateur.homebrew,alt.electronics.manufacture.circuitboard

I just wanted to let you all know about something I found at a local home center that is a remarkably good deal.

It's a drill press stand for Dremel Moto-Tools, but it's not made by Dremel. It's imported from France under the "Hobby Pro" label by The Mibro Group, 72 Benbro Drive, Cheektowaga, NY 14225.

It cost me only $30 and is quite solidly built.

Compared to Dremel's drill press stand, it has two big advantages:

* It fits all or virtually all Dremel and Craftsman (corded, not cordless) Moto-Tools, not just the current model.

* It does not "walk" from side to side as it goes down. On the side of the rack is an adjustable pressure plate that lets you compensate for wear and make sure its downfeed is perfectly straight.

I'm using it with an old Craftsman Moto-Tool (that's Dremel's name for it; what's the generic term?) as a circuit board drill. 30,000 RPM is very nice!

It also includes a router table setup which I haven't used.

I'm not affiliated with the company except as a satisfied customer. Has anybody else seen and tried this item?

--
Michael A. Covington http://www.ai.uga.edu/faculty/covington/
Artificial Intelligence Center <><
The University of Georgia Unless specifically indicated, I am
Athens, GA 30602-7415 U.S.A. not speaking for the University.

4165. Re: Question on J-pole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: taylors@smartt.com
Message-ID: <4rcg5k$pts@ktk2.smartt.com>
Source record: 104297

pchow@cisco.com (Peter Chow) wrote:

>Someone told me that there was an article in QST on how to make your
>own J-pole. Did anyone know which issue is that?

>Thanks.

>Peter
This month's Canadian Amateur magazine has an article on a J-pole
antenna made out of 1/2" copper tubing.
--
Mr T.

4166. Re: Homebrew FSK modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: David Sipe <dsipe@calweb.com>
Message-ID: <31D9D0A7.17C3@calweb.com>
Source record: 104298
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Kevin Pounders wrote:
>
> I am trying to build an FSK modem for use on 2M packet, but the plans I
> have calls for a TI TCM3105 FSK modem chip.
>
> I have contacted all of the component suppliers that I know but am unable
> to locate this chip (is now obsoulite). The one exception had a minimum
> order of 20 pieces.

I don't believe the TCM3105 is obsolete. Texas Intruments still makes them and they are available through Allied Electronics for about $9.00 each according to their latest catalog #956. The only catch is have a minumum order of $25.00. Phone 1-800-433-5700 or check out thier parts lookup for prices and stock at http://www.allied.avnet.com.

Good luck.

--
73 David KD6QFZ
dsipe@calweb.com

4167. Re: Homebrew Baycom modem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: craigivey@aol.com
Message-ID: <4rcjfe$g7n@newsbf02.news.aol.com>
Source record: 104299

There are a few kits out there that can be built to act as the Baypac type. The IMP, Ramsey's, and others... The v1.4 software comes with a schematic that should be enough to build your own (if you have the right stuff.)

CraigIvey@aol.com

4168. 6/2 Mobile Antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: "Earl Needham, KD5XB, in Clovis, NM" <NeedhamE@3lefties.com>
Message-ID: <01bb689a.806e86c0$ec1865ce@SNeedha.3lefties.com>
Source record: 104300
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

I want to thank everybody who replied to my query about building a mobile antenna for 6 & 2.

Unfortunately, my 5/8 wave Hustler has seen better days, so I ordered a commercially-marketed antenna to do this.

Tnx es 73
--
Earl Needham, KD5XB, in Clovis, NM
Phi Mu Alpha Sinfonia, Pi Chi '76
Have you really jumped ROUND PARACHUTES? (Overheard at the Clovis Parachute Center)

4169. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: rdcole@usa.pipeline.com
Message-ID: <4ra22r$757@news2.h1.usa.pipeline.com>
Source record: 104378
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

Clifford Soderback <Cliff-s@worldnet.att.net> wrote:

> Almost all older AM broadcast transmitters used 208volt 3 phase
>power. Which is not usually availble at your home.

Many of these "Old Transmitters" are still in service today. They operate on AC input volatges of 208 to 250 VAC Single Phase. The transformers are taped to allow adjustment for the correct operating voltages.

>
> A popular 1 kilowatt output design used by several manufacturers
>was to have a pair of 833A's sometimes modulated by another pair of
>833A's.

The best know series of this type of transmitter is the Gates BC1F through the H series. The latter H models featured SolidState audio sections with a Pair of 833's for RF and a Pair fo 833's for Audio Modulation. The G and H were about 6' Tall and 4' square. The F was over 7' Tall and about 5' wide and 4' Deep. The bulk of the transmitters were Air.

> Now the bad part, all of these old transmitters had PCB
>capacitors in them. Most of the older transmitters have been
>disassembled and the capacitors shipped to a disposal site. If one
>of these caps were to leak or explode it would be a major hazardess
>waste cleanup. The PCB liability was the primary reason these
>transmitters were scraped.

Stations in any size market have long since replaced the PCB capacitors. The laws are so confusing that the cost of replacing the capacitors far outway the possible liability of a transmitter fire.

Ron Cole
N5HYH
Former Broadcast Engineer

4170. Simple microwave transceiver information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-02 00:00:00 UTC
From: g-aid@lanminds.com
Message-ID: <31d5fe39.12640494@NEWS.LANMINDS.COM>
Source record: 104379

For practical information on microwave transceiver construction,try to get hold of the "VHF-UHF Manual" by D.S. Evans and G.R. Jessup, published by the Radio Society of Great Britain (their counterpart of thr ARRL). Try your local university/engineering library.

Although first published in the 70s, the material is quite relevant for beginners and the book might still be in print. To order, try writing the RSGB at 35 Doughty Street, London WC1N 2AE, England.

4171. Where to buy TC5080p IC.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Bill Sample <bills@enternet.co.nz>
Message-ID: <01bb6872.7ef58280$2d601bca@bills.enternet.co.nz>
Source record: 104301

Can anyone tell me where I can buy a TC5080p IC.
My ICOM 22S is otherwise good. The IC is a divide by N binary mode
counter, used in the PLL. I am currently using a pair of 4522 s but they
are decimal and I can only run simplex. Thanks
Bill Sample bills@enternet.co.nz

4172. What is an RF sampler?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: hepc@hepc.com
Message-ID: <4rclm9$s59@guyana.it.earthlink.net>
Source record: 104302

Is an RF sampler the same as a directional coupler?

My question concerns "RF samplers" for above 1 GHz.

--Thanks in advance, Todd KE4UDN

--73, Todd KE4UDN

Todd Owen Hanover Engineers, P.C.
Richmond, VA 804-730-0011 (Voice)
804-730-4012 (Fax)

ke4udn@amsat.org

4173. Re: Question on J-pole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: raiar@inlink.com
Message-ID: <4rcp15$hph@news2.inlink.com>
Source record: 104303

pchow@cisco.com (Peter Chow) wrote:

>Someone told me that there was an article in QST on how to make your
>own J-pole. Did anyone know which issue is that?

>Thanks.

>Peter

Hi Peter

Check out my web page, it gives all the dimensions for tubing type
J-Poles, multi-band J-Poles, stacked-Js and mirror-image-Js, plus a
K-Factoring chart for using different pipe sizes.

http://www.inlink.com/~raiar Look under copper cactus.

TTUL - 73+ de Gary - KG0ZP

4174. Homebrew Meter Scales

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: BlandRanch@WorldNet.ATT.net
Message-ID: <4rcrtb$evc@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104304

I have constructed an Antenna Tuner. I need to create my own meter scales for the meters (duh) that I used.

Does anyone have a template (as in electronic, WORD6, or a program) that allows me to generate my own? I will also accept tips on doing them by hand.

Chuck Bland
n6dbt

4175. Re: Question on J-pole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: robert@kd3bj.ampr.org
Message-ID: <robert.836361625@kd3bj.ampr.org>
Source record: 104305

pchow@cisco.com (Peter Chow) writes:

>Someone told me that there was an article in QST on how to make your
>own J-pole. Did anyone know which issue is that?

>Thanks.

>Peter

Check the December issue of any year for the full-year index.

--
Robert Garland NX3S @ N3ACL.PA.USA.NOAM
Hilltown Township Bucks County robert@kd3bj.ampr.org
Pennsylvania USA Grid FN20ii
"Ham Radio is a calling"

4176. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: jharper@bs2000.com
Message-ID: <4rd8ik$170@news-2.csn.net>
Source record: 104306
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <31D97E7E.63DE@ldp.com>, Rolfe Tessem <rolfe@ldp.com> wrote:
>> I am certainly no lawyer -- but, I THINK that the current laws, passed by our
>> wonderful Congress and signed by our wonderful Presidents (Bush/Clinton et.
> al.)
>> state that if you sell "contaminated" land that the seller is forever liable
> for
>> the cost of cleanup. Therefore -- your PCB laden transmitter leaks; you sell
> the
>> land to someone; 20-years from now, 1 part per billion PCB is detected; --
> you
>> are liable for $5-million to get the stuff cleaned up.
>
>The point is that PCBs that are safely sealed inside transformers or capacitors
> are
>no hazard whatsoever. What do you think is inside all those pole transformers
> you see
>up in the air? The PCB problem is that GE dumped tons of the stuff into the
> Hudson
>and Housatonic rivers over a period of years. You are not going to have a PCB
> problem
>from a sealed transformer or capacitor, even if one should happen to leak on
> your
>garage floor. I have a number of oil-filled capacitors and transformers and,
> although
>I may lose sleep over a lot of things, this is not one of them.
>
>Rolfe
>W3VH
>
>--
My point was not that there is a real hazard from a leaky transformer -- but that
I THINK that the stoopid laws say that you are liable even for 1 part per
billion cleanup....

regards to all

Jack, KC0LR (Friend to all things Hammarlund)

Jack Harper Bank Systems 2000, Inc.
e-mail: jharper@bs2000.com 350 Indiana Street, Suite 350
voice: 303-277-1892 fax: 303-277-1785 Golden, Colorado 80439

"21st Century Financial Applications"
Optical Cards for Bank, EBT, and Medical Applications
Visit our Web Page: http://www.bs2000.com/talos

4177. WRC-97 Information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Tim <tim@futureone.com>
Message-ID: <01bb68bb.8007f9c0$d3b667ce@observer>
Source record: 104307

Keep up to date with the latest informaton on WRC-97 and the Amateur
Radio Ham Bands at Web Site:

http://www.futureone.com/~tim/wrc/

73's
Tim

4178. Re: crystal source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4rdpu0$pe@mksrv1.dseg.ti.com>
Source record: 104308

In article <4rb4u7$ufp@intelsat2.intelsat.int>, matthew.halsey@intelsat.int says...
>Does anyone know of a good source of economically priced crystalsa?
>I have an old PMR radio which I want to crystal up for a local repeater
>here in Gaithersburg, MD.

Try JAN Crystals... 1-800-JAN-XTAL... free catalog, good prices/service.

73 de KC5NG

4179. Re: Can someone I.D. these Amidon cores' frequency range?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: d-hemphill@ti.com
Message-ID: <4rdps7$pe@mksrv1.dseg.ti.com>
Source record: 104309

Thanks, Mike! I will print this info and store it with the cores!

Vy 73 es tu agn de KC5NG ar

4180. 1445 Bulb

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4rdvlo$1k0@newsbf02.news.aol.com>
Source record: 104310

Does anyone know if there is an equivilent for a 1445 bulb? The one I have is green tinted.

73 Tom

4181. Home brew freq. counter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Ken Keslar <k.keslar@worldnet.att.net>
Message-ID: <4re0a9$nqn@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104311

does anyone know of any plans or where to get plans to build a
freq.counter. it does not kneed many bells and whistles

4182. Re: Help with FOXHOLE RADIO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: cbj1@rsvl.unisys.com
Message-ID: <cbj1.19.058BC690@rsvl.unisys.com>
Source record: 104312
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4rb6f2$b7b@dfw-ixnews5.ix.netcom.com> lewissys@ix.netcom.com(Charles E. Lewis) writes:
>From: lewissys@ix.netcom.com(Charles E. Lewis)
>Subject: Help with FOXHOLE RADIO
>Date: 2 Jul 1996 12:59:14 GMT

> A few weeks ago, I casually read some posts about making a foxhole
>radio using a razor blade as a rectifier. Last weekend, I fell into
>possession of a Gillette double edge blade with a sky blue finish still
>in the original wax paper. Is this the type I need? If so, can
>someone give me enough details to make an authentic one? Also, any
>documentation, anectdotes, or facts that would help to make it an
>educational display would be appreciated.

> 73 de KJ5WA

Charles,

Yes, you have the right kind of razor blade.

I made many of these razor-blade radios as a young boy, from plans in a Boy's Life magazine. Probably about 1959 or so. They really are amazing. NO EXTERNAL POWER! I haven't actually built one for years, but need try it again also!

Here is the basic plan, as I remember it.

Top view: (Sorry for crude ASCII drawing...)

```
\-|-/ long wire
\|/ antenna
RAZOR BLADE |
+--------------------------+ |
| / | |
| Screw A /-/ | Screw B |
+------|- - - - - -(+) /-/==============(+)-------+
| | ` /-/ | |
| | ` lead / | |
| +------------`-------------+ |
----- | |
/ / / | |
good ground | |
(water pipe) | |
| |
+---------O O-------------+
Headphones
```

1) Carefully buff the double-edge razor blade with a grindstone to remove the coating and make it more sensitive.

2) Mount the razor blade loosely on a board, with a 1/2" screw (Screw A) throught the center hole. Put a couple of washers underneath the blade to lift it off the board and another washer above the blade.

3) Take two pieces of insulated bell wire about 5" long and remove a 1" piece of the insulation in the center of each of them.

4) Wrap the bare section of one of the wires around the razor blade screw between the bottom washers that hold it off the board. These two pigtails will be used for connecting to the headphones and ground.

5) Put a couple of washers on another 1/2" screw, and mount it (loosely) to the board about 1/2" away from the edge of the blade.

6) Wrap the bare middle section of the other 5" wire around screw B. These two pigtails will be connected to the headphones and antenna.

7) Get a 3/4" piece of pencil lead. I recommend carving up a wooden pencil (remember those?) so you can get a good strong piece. Sand one end flat (blunt).

8) Cut a bare piece of bell wire, about 2 inches long. Now wrap one end of the wire around the pencil lead about 5 times. (Now you know why the lead needs to be fairly "fat".) The lead should protrude from the bottom of this little coil of wire.

9) Mount the other end of this wire to screw B.

10) Tighten both screws.

11) Bend the piece of wire holding the pencil lead so that the blunt end of the lead rests on the surface of the razor blade with as much surface contact as possible.

12) Connect one of the wires from screw A to a water pipe and one of the wires from screw B to a long piece of wire for an antenna.

13) Connect the other wire from Screw A to one side of the headphones. Connect the other wire from Screw B to the other side of the headphones. (Sorry, I don't have the specs on the kind of headphones to use; I had a cheap pair and they worked fine.)

14) Listen.

To tune the radio, carefully wiggle the lead (or wire holding the lead) and move it around the surface of the razor blade. Let go when you hear music! You should be able to pick up local AM radio stations.

Have fun! Report back if it works!

- Craig, AA0ZZ

4183. List Of Stamp Applications [960703]

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: cj@hth.com
Message-ID: <31da9c0f.0@news.buller.se>
Source record: 104313
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
_____________________________________________________ _____
_____________________________________________________// L.O.S.A //_____

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List Of Stamp Applications Date: 960703
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_____________________________________________

1.0 What is BASIC Stamp ?
-------------------------

This is being written for people who have no idea of what a BASIC
Stamp is...

BASIC Stamps are small reprogrammable single board computers (SBC)
that run BASIC programs and are made by Parallax, Inc. in US. At
first glance, they may seem fairly minimal - and in fact, they are.
But with software that fully utilizes all available hardware, the
Stamps give you powerful features - without the cost of hardware.

Their low cost and simplicity make the Stamps perfect for many
prototyping and control applications. It's suitable for electronics
hobbyists as well as electronics professionals in many different
areas.

Typical application areas for BASIC Stamp's are...

- General electronics
- Home automation
- Robotics
- Mini PLC
- Education
- Prototyping
- HAM related applications
- Special effects in films
- Industri control
```

- Geological instruments
- Computer peripherals
- Scale model hobbyists
- Model train hobbyists

As an talent engineer and technical writer expressed it...

- BASIC Stamp is the 555 of the 90's !

1.1 What is L.O.S.A all about ?

I started to compile L.O.S.A because I know there are lots of great ideas and many problems that are solved with the BASIC Stamp and the main purpose of this list is to get an idea of what other people are using their BASIC Stamps for and maybe get some inspiration or hints.

Remember it's up to all of us if this list are going to be any good and I'm looking forward to receive a description of your application.

1.2 How can I contribute to this list ?

If you have done something with the BASIC Stamp (big or small) that you are willing to tell others please use the form given below and write a short description, nothing fancy is needed just a simple explanation. If you have source code to share that's even better but it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

[--- cut ---]

```
=========================================================================
- L.O.S.A Contribution Form -
=========================================================================
New Contribution [ ] Update [ ]
-------------------------------------------------------------------------
Title :
Author: Date:
E-mail: (optional)
-------------------------------------------------------------------------
Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
```

Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

1.3 Where could I find L.O.S.A ?

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

If you don't have access to Internet you could send an SASE to the
address given below and I will return you a 3.5" DOS-disk with the
latest version in ASCII-format.

High Tech Horizon
Attn: L.O.S.A
Asbogatan 29 C
S-262 51 Angelholm
SWEDEN

1.4 List of contributions

> = Indicates a new or updated application since last time.

001 Robo-Cat
002 Logic Rudder
003 Interfacing MAX186 8 channel 12bit A/D
004 Scrolling LED Sign
005 Tone Decoder
006 Pager
007 HexWalker Mobile Robot

008 Robo Bug
009 EXPBOT Robot controlled by Stamp
010 Andrews Ever Evolving Lego Robot
011 Factory Monitoring System
012 Wave to the Cats/Desk Temperature
013 Gamer's Die Roller
014 Stamp II Serial I/O
015 Voice and CW Fox Hunt Transmitter IDer
016 Lift (elevator) Controller
017 Paging with the Stamp
018 Switching Sytem
019 Door Entry Card Reader
020 Telephone Card Reader
021 DTMF Decoder
022 Ion chamber radiation monitor
023 Barn Monitor
024 Dallas one-wire interface
025 Sculpture control
026 Commercial clothes dryer controler
027 Morse Code Keyer
028 Traffic Light Controller
029 Automotive Lamp Control
030 Single Switch Scanning Device for Disabled
031 Bell timer for school bell control
032 RIMS controller for beer making
>
>
>

liver damage. Because the liver isn't working well the cat feels crappy and wants to eat even less. The treatment for this disease is to run a tube down down the cats nose into his stomach, or a PEG tube through the abomine wall into the stomach and feed the cat a liquid diet this way.

I love my cat, but I can't be there every three hours to feed him through the tube for a month. Something about work and deadlines and such. So I went to a local supplus house and got a tiny motor driven pump, a case, some switches, a micro switch, ect...

The micro switch is mounted such that the switch trips for every rotation of the pump shaft. The stamp turns on the pump for on a single rotation at intervels programable from the controll switches on top. An alarm buzzer and LED flash if the pump fails to run for any reason. The unit is programable for 9 differents deleviery rates.

Now he gets a slow continuious feeding and he seems to tolerate this better than the 100ml feeding every three hours.

==========
Title : Logic Rudder [# 002]
==========
Date : 950812
Author: Christer Johansson
E-mail: cj@hth.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : LRUDDER.ZIP
URL : http://www.hth.com/filelibrary/BS1-IC/

Description :

Many of the new and very realistic flight sims available today needs rudder to let you get full control. This one uses a digital pot from Xicor (X9104) and 10 other components. Connects to a standard IBM-PC game port and power is taken from the port.

It uses two micro switches for controlling the rudders left or right and to indicate when rudders move there is a red LED that lights up when you press the micro switches and to indicate center there is a green LED. If you press the both micro swithes the rudder will automaticly return to center position.

There is a trim pot to set the desired step rate from slow to very fast and the Xicor pot has 99 steps wich gives a fair resolution.

==========
Title : Interfacing MAX186 8 channel 12bit A/D [# 003]
==========
Date : 950925
Author: Helmut Fligge

E-mail: h.fligge@asco.nev.sub.de

Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : N/A

Description :

This Program interfaces the Stamp1 to the MAX186 A/D converter. Via RS232 2400bps the stamp is asked to measure channel numbern. After conversion the result will be returned to the host computer as an ascii string (0 .. 4096). Conversion rate is about 4 measures per second.

==========
Title : Scrolling LED Sign [# 004]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Maybe sometime
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Scrolling LED sign, 35 super-bright LEDs in a 5-by-7 matrix in the prototyping area of a Basic Stamp rev D. A scrolling alphanumeric message moves one pixel at a time, just like real scrolling LED signs, except this one only displays one full letter or portion of two letters at a time as the message moves by.

==========
Title : Tone Decoder [# 005]
==========
Date : 950926
Author: Bob Blick
E-mail: Bob_Blick@redwoodfn.org

Stamp model : BASIC Stamp Rev. D
Code available: Soon
Filename : N/A
URL : http://www.execpc.com/~bblick/stamp.html

Description :

Listens for telephone touchtones, displays phone numbers on LCD screen and echos them out RS-232 port. Circuitry fits in prototyping area of rev D Basic Stamp:

Microphone preamplifier, touchtone decoder IC.

==========
Title : Pager [# 006]
==========
Date : 950928
Author: Don McKenzie
E-mail: donmck@labyrinth.net.au

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : PAGER.BAS
URL : http://www.labyrinth.net.au/~donmck

Description :

This program for the Basic Stamp is used to monitor 4 hardware signals. If a change takes place, (after testing for a false trigger) then a cheap 2400 baud MODEM is used to dial into a Telecom Alpha-Numeric pager. It leaves a message which consists of a 2 digit I.D. (01 to 99) followed by the 4 signal levels of pins 3 to 0.

Status of the signal levels message: 0=Low, 1=High. EG: "011110" means Unit "01" has pins 3, 2, and 1 high, and pin 0 is low.

A "Ring-In" feature is also included. By ringing the MODEM for a short period, then hanging up, the Stamp will dial your Pager and report the current hardware status of these four signals.

This program uses about half of the available memory, so if the user wishes to add enchancements such as "Multiple Ring-In's" say within a minute, for a command selection, there is plenty of program space left.

==========
Title : HexWalker Mobile Robot [# 007]
==========
Date : 960511
Author: Tom Thornton
E-mail: mandtsys@ix.netcom.com

Stamp model : BASIC Stamp Rev. D or BS1-IC
Code available: YES
Filename : WALK.BAS
URL : N/A

Description :

HexWalker is a hexapod robot that exhibits obstacle avoidance behavior. It is controlled by BASIC Stamp, BS1-IC, or Stamp chipset (PIC16C65 + EEPROM). Driven by three servos it is the simplest machine architecture that can walk forward and backward, and turn left or right. A kit is commercially available contact author for

details.

```
========================================================================
Title : Robo Bug [# 008]
========================================================================
Date : 951003
Author: David Novick
E-mail: dkn@cimar.me.ufl.edu
------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: YES
Filename : N/A
URL : http://www.me.ufl.edu/~dkn
------------------------------------------------------------------------
Description :

Using two stamps, a robot with six legs (2 degrees of freedom each)
was able to walk and turn (at this stage, not very gracefully).

========================================================================
Title : EXPBOT Robot controlled by Stamp [# 009]
========================================================================
Date : 951009
Author: Marvin Green
E-mail: marvin@agora.rdrop.com
------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : EXPBOT.BAS
URL : E-mail author and he will send it
------------------------------------------------------------------------
Description :

This program allows a cool robot to move abound a room in search of
light. Like a moth. Simple program changes can dramatically change
the robots behavior.

========================================================================
Title : Andrews Ever Evolving Lego Robot [# 010]
========================================================================
Date : 951119
Author: Andrew H. Hochheimer
E-mail: softarts@ciaccess.com
------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: YES
Filename : N/A
URL : http://www.wincom.net/~softarts
------------------------------------------------------------------------
Description :
```

Currently the robot can only navigate to the brightest light source in a room. It's current operation mode has four major steps: - Scan a 180 Degree Field of "Vision" taking light level readings, and determining the brightest direction of light. - Decide if it needs to turn left, right, or continue moving forward. - Check for collision with an object while moving, if a collision occurs, display the total travel distance on the display - Move forward for 1.5 Seconds and then repeat the process.

Currently I am using Two Futaba FP-S128 Servos (any RC Car Servos would work) one to sweep it's "sensors" form left to right, and one to "stear" the robot.

You can see pictures and more information on my homepage, just follow the lego robot link.

==========
Title : Factory Monitoring System [# 011]
==========
Date : 951120
Author: Paul Willemse
E-mail: pjwill@merlion.singnet.com.sg

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author

Description :

The system presently consists of 4 Basic Stamp units. Each monitors up to 5 inputs. The inputs are 'digital' (switches) and/or analog (temp, airflow, current, etc using commercial sensors). All stamps communicate the results via serial mode to a Macintosh (Yes a Mac!) where the results are graphically displayed and monitored. Alarms are set for certain conditions.

The transmission is simple, one way only. Each stamp sends the info at a 'random' interval not exceeding 2 seconds. The message format is fixed, the Mac will throw away any conflicts in case two or more stamps transmit at the same time. BTW this happens very seldom. The max time any stamp can be 'absent' from the chain before an alarm is raised is six seconds (failure, transmission collisons, etc). This is controlled by the Mac.

The 'system' is presently in beta test, the client wishes to expand up to 20 stamps. At that point we will likely use the BS1-IC or BS2-IC on custom boards located around the facility.

Code is available upon request (e-mail) partial, some is proprietory to my client.

==========
Title : Wave to the Cats/Desk Temperature [# 012]

```
=========================================================================
Date : 951121
Author: Paul Haas
E-mail: paulh@hamjudo.com
-------------------------------------------------------------------------
Stamp model : BS1-IC
Code available: Yes
Filename : See web server
URL : http://hogwild.hamjudo.com/cgi-bin/stamp
-------------------------------------------------------------------------
Description :

The Stamp has a serial connection to web server, a cardboard hand, a
servo motor to move the hand, and a DS1620 thermostat chip to meas-
ure the temperature. The web server can request the current temper-
ature or start the hand waving. See the web page for the source code
for the temp and the web server.

It's mostly useless. The cats ignore the hand. A few people find it
entertaining.

=========================================================================
Title : Gamer's Die Roller [# 013]
=========================================================================
Date : 951122
Author: Larry Tremblay
E-mail: ltremblay@domus.com
-------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: N/A
Filename : N/A
URL : N/A
-------------------------------------------------------------------------
Description :

The Gamer's Die roller is a little thing I am putting together as my
first Stamp Project. The Roller allows cumulative rolls of n dice up
to 256 sides, so long as the sum does not exceed 99,999,999(!)

It uses two 74HC161 4 bit counters cycling at 1MHz to draw random
numbers off of. Input is achieved via a Grayhill model 38 keypad
and a 74C922 keypad decoder. Display is on a Siemens PDSP-2111 8
character smart display (5x7 LED characters) fed by two 74HC164
serial to parallel shift registers cascaded so I can use Shiftout to
feed 16 bits of control + data off of 2 pins.

The code is very simple, the most exotic part being the random numb-
er generation. In a nutshell, it is:

Begin Loop
S = 8 bit number drawn from the counter (random)
if S < (255/N) x N (integer divide, N is number of sides on die)
```

```
exit Loop
End Loop

This gets (pseudo) random numbers whose average is not skewed
downwards by the counter's max of 256 (i.e. a 100 sided die is not
affected by the extra 56 in the count maximum)

Using gamer's dice notation, (5d6 = sum of 5 six sided dice, 3d10 =
sum of 3 ten sided dice), the user can input whatever combination
they wish, including just 'd6' for one six sider. The keypad I have
has removeable keycaps with legends, so I have 0-9 plus 'd' and '='
on them.

As noted earlier, since I am using an 8 bit counter, the maximum die
size is 256, although that could be fixed easily by sampling two,
three or more times for each die.

Anyhow, that's it. When the code is done and debugged, I'll be happy
to e-mail it to any who want it.

=============================================================================
Title : Stamp II Serial I/O [# 014]
=============================================================================
Date : 951128
Author: John Hansknecht
E-mail: Hansknec@cebaf.gov
-----------------------------------------------------------------------------
Stamp model : BS2-IC
Code available: Yes
Filename : HAL01.bs2 and HAL01.bas
URL : ftp.parallaxinc.com
-----------------------------------------------------------------------------
Description :

A bare-bones demonstation of 2 way serial communications between a
PC running Qbasic and 1 or more Stamp II's.

=============================================================================
Title : Voice and CW Fox Hunt Transmitter IDer [# 015]
=============================================================================
Date : 951221
Author: Sam Guccione
E-mail: sguccion@outland.dtcc.edu
-----------------------------------------------------------------------------
Stamp model : Counterfeit Stamp
Code available: Yes
Filename : Revision of S. Edwards MORSE program
URL : N/A
-----------------------------------------------------------------------------
Description :

An IDer based upon the MORSE program. Has 4 time delays as well as
a random time delay. Circuitry includes selection of a voice id
```

using the Radio Shack 10 voice board or the Walden bookstore 10 sec
talking gift card. This is a very simple circuit and program but was
developed by my students under my direction.

May be of interest to someone out there.

```
======================================================================
Title : Lift (elevator) Controller [# 016]
======================================================================
Date : 951225
Author: Dave Bell
E-mail: dbell@cup.portal.com
----------------------------------------------------------------------
Stamp model : Faux Stamp (BASIC Stamp clone)
Code available: Yes
Filename : Upon request
URL : N/A
----------------------------------------------------------------------
Description :
```

A simple control loop monitoring lift Call buttons (with debounce)
and Limit switches, forbidding manual control past limits, and en-
forcing a Stop before reversal of direction. This will be used in
an owner -designed and -built single story platform lift for a home.

```
======================================================================
Title : Paging with the Stamp [# 017]
======================================================================
Date : 960104
Author: Kurt Clement
E-mail: kclement@kraft.com
----------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: Yes
Filename : monitor.bas
URL : N/A
----------------------------------------------------------------------
Description :
```

Use the Stamp to monitor several inputs, two temperature and two
contact closures in this application. When inputs go outside set
limits, dial pager and send coded message. Used to monitor power
failures and temperatures for computer and network equipment since
August 1994, running on 9 V power supply from one of the UPS units.

```
======================================================================
Title : Switching Sytem [# 018]
======================================================================
Date : 960109
Author: Alexander Avendano
E-mail: aavendan@aros.net
----------------------------------------------------------------------
```

Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A

Description :

I'm almost finishing a Basic Stamp Based Switching System (Small Phone system) which I consider very usefull for small companies that cant'n afford other brands. This is designed with a host computer which will have a vox-mail and all the functions like big ones to choose. I'm using BS1-IC's for the extensions process right now.

As soon I have complete it I will give the code away for small Intelligent Switching phone system up to 2 Lines and 4 Extensions using the L.C.D serial circuitry for information display. I forgot to mention that the computer (Host for many processing functions) will be running under Windows 3.1 and Windows 95, making this way a usefull computer not only for the phone system but for ithers application at the office.

Please be free to send me E-mail, about any suggestion.

==========
Title : Door Entry Card Reader [# 019]
==========
Date : 960110
Author: Ed Buckley/J J Barbarello
E-mail: ed@milinst.demon.co.uk

Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : N/A

Description :

Stamp 1 based version of the Card Reader article by J J Barbello as described in the August 1995 edition of Electronics Now. This version uses the Stamp 1 as a local controller determining the card number and deciding whether or not to allow door opening. Optional serial comms back to a master controller and optional local message readout using an LCD Backpack.

Lots of scope for further enhancement/experimentation. Circuit schematic and listing available.

==========
Title : Telephone Card Reader [# 020]
==========
Date : 960119
Author: Francesco Volpe

E-mail: f.volpe@ee.mu.oz.au

Stamp model : BS2-IC Module
Code available: YES
Filename : TELEMARK.LZH
URL : ftp://ftp.ix.de/pub/elrad/010/

Description :

The BS-II is used to read a German telephone card, which is a smart card. For more details see the German Electronic Magazine ELRAD (http://www.ix.de/el).

The data is transfered via RS232 to any terminal program.

==========
Title : DTMF Decoder [# 021]
==========
Date : 960125
Author: Joe Altieri
E-mail: radioman@banished.com

Stamp model : BS2-IC Module
Code available: YES
Filename : DECODE.BS2
URL : N/A

Description :

A new parallax BASIC Stamp II program for decoding a nine digit DTMF sequence of "Touch Tones" for remote activation/de-activation of any electrical appliance via Ham Radio, radio link, telephones, intercoms, etc.

==========
Title : Ion chamber radiation monitor [# 022]
==========
Date : 960125
Author: Jeffrey L. Rothman
E-mail: rothman@bnlls1.nsls.bnl.gov

Stamp model : BS1-IC Module
Code available: YES
Filename : RADMON12.BAS
URL : N/A

Description :

A Basic Stamp monitors the operation of an ion chamber radiation detector. The ion chamber and related circuitry produce a signal with a frequency proportional to the dose rate. The Stamp measures the frequency and calculates the dose rate and total integrated

dose.

The results are displayed on a log scale panel meter and an LCD respectively. The dose rate is also transmitted over RS-232 to a remote PC.

A Front panel button allows the user to reset the total integrated dose. Another button allows the audio alarm to be muted at low dose rates.

==========
Title : Barn Monitor [# 023]
==========
Date : 960203
Author: Lynn A. Roth
E-mail: lynnr@hesston.edu

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author

Description :

The Barn Monitor checks the temperature in 5 rooms of a farrowing house. The temperatures are taken by DS1620 chips.

If the temperature goes outside the limit set by the farmer, the Stamp dials a pager using a 2400 baud MODEM. The same occurs if the power goes out.

==========
Title : Dallas one-wire interface [# 024]
==========
Date : 960212
Author: Daniel G. Clemmensen
E-mail: dgc@shirenet.com

Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.shirenet.com/~dgc

Description :

As part of a furnace controller project, I've interfaced A Stamp II to a string of Dallas 1820 digital thermometers. The interface consists of three cheap IC's and some subroutines. A design note and a demo program are available on the web. I have successfully tested the interface with a string of twelve 1820's.

I have not yet tested it with other one-wire devices, although I will update my web site when I do.

```
================================================================================
Title : Sculpture control [# 025]
================================================================================
Date : 960323
Author: Pierre Olivier
E-mail: olipie@aei.ca
--------------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: N/A
Filename : N/A
URL : N/A
--------------------------------------------------------------------------------
Description :

I have been working with sculptors for some time doing control cir-
cuits for their works using 555 (limited), industrial controllers
(expensive and hell to program) and lately Basic Stamp.

Our latest piece deals with image deconstruction: it consists of 20
vertical cylinders on which an image is wrapped. Each has a photo
detector to detect "position zero", and a custom basic stamp board
with a MC3479 step motor driver that drives a step motor which turns
one cylinder. Each cylinder can thus have its own routine which pos-
itions it precisely (400 steps/rev motors) where we want it for any
amount of time, at any speed (very interesting sonically at sub-
second stepping speeds!).

The stamp outputs direction, step and enable signals to the motor
driver and a ready signal to a common line. It receives signals from
the aforementionned ready line, and from the optical sensor.

It would have been quite a bit more complicated, bulkyer and
expensive to implement this project without the stamp.

================================================================================
Title : Commercial clothes dryer controler [# 026]
================================================================================
Date : 960401
Author: J Amy
E-mail: Kuznjack@aol.com
--------------------------------------------------------------------------------
Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : N/A
--------------------------------------------------------------------------------
Description :

Detects drop of coin and increments time remaining register.
Actuates main and heat relays. Checks temperature, and controles
heat relay Periodically decriments time remaining register. Provides
cool down cycle in last four minits.
```

Replaces original controler which costs several hundred dollars, and
is not reliable.

```
==========================================================================
Title : Morse Code Keyer [# 027]
==========================================================================
Date : 960415
Author: Richard Clemens
E-mail: clemens@academ.wvwc.edu
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : http://www.ccue.org/stamps/morse2_bs2.html
--------------------------------------------------------------------------
Description :
```

This program provides a four message keyer for Amateur Radio. The
user can input four different messages, their character counts, and
use four buttons to display the output and/or key a transmitter.

NB: the messages are limited to the upper and lower case letters,
digits 0-9, space, period, comma, ? and /

Program is based on the information in Stamp I - Note 8 and uses
some code from that note.

```
==========================================================================
Title : Traffic Light Controller [# 028]
==========================================================================
Date : 960418
Author: M-Systems Inc.
E-mail: mstems@aol.com
--------------------------------------------------------------------------
Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : N/A
--------------------------------------------------------------------------
Description :
```

We have used a BS1-IC to control a simple two way intersection
coordinate the timing and switching of a traffic light at a two way
traffic intersection.

```
==========================================================================
Title : Automotive Lamp Control [# 029]
==========================================================================
Date : 960427
Author: Ron Woodward
E-mail: RWoodward@gnn.com
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
```

Code available: N/A (Will share concepts)
Filename : N/A
URL : N/A

Description :

This system involved connecting two BS2 units to a bank of 28 MOSFET drivers which controled the external lighting in a demonstration vehicle shown at the SAE expo in Detroit MI.

The lighting control had to perform PWM modulation simultaniously on 10 different circuits while controling Turn, Stop, Tail, Backup Hi Beam, Low Beam and fog lamp circuits with a set of preprogrammed timing sequences.

The timing was worked out so that the PWM of the lamps was flicker free throughtout the demonstration sequence.

The BS2 units worked together in a master - slave relationship to maintain proper sequencing of lights on both hands of the vehicle.

==========
Title : Single Switch Scanning Device for Disabled [# 030]
==========
Date : 960508
Author: Chuck Benson
E-mail: Chuck%6567006@mcimail.com

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : N/A
URL : E-mail author

Description :

This project modifies a Lanier VoiceWriter dictation device so that it can be operated by a person with a severe disability such as quadriplegia.

The interface to the device is via the VoiceWriter's hand controller. The connections to the external switches are removed and replaced with switch closures via reed relays driven directly by the PIC's (BASIC Stamp's) I/O.

The user starts operation of the device by operating a SPST switch (typically with his or her cheek or jaw). The user then hears a series of five (5) tones which come from a piezo-electric speaker driven directly from an I/O pin.

The tones correspond to 'Play', 'Stop', 'Record', 'Rewind','Fast Forward'. When the desired tone is heard, the user activates the switch again and a relay corresponding to that function is closed. This in turn provides the desired function from the dictation

device.

The code is a series of nested loops that provide the tone & the
relay selection. Copies of code are available upon e-mail request.

```
==========================================================================
Title : Bell timer for school bell control [# 031]
==========================================================================
Date : 960511
Author: David Abineri
E-mail: dabineri@tso.cin.ix.net
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author
--------------------------------------------------------------------------
Description :
```

This is a sytem which allows flexible control of bell schedules for
schools. One may program up to seven different schedules of 30
different times each. Data entry is with a small keypad. Indicators
show the schedule currently being used and the day of the week.

Users may instantly select which schedule to follow and may even
enter a special schedule in a matter of a minute or so. The system
simply operates a relay that rings all the bells in the building.
Editing schedules is allowed as well as manual operation.

```
==========================================================================
Title : RIMS controller for beer making [# 032]
==========================================================================
Date : 960511
Author: C.D. Pritchard
E-mail: cdp@chattanooga.net
--------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : E-mail author
--------------------------------------------------------------------------
Description :
```

Controls mash temperature on a recirculation infusion mash system
(RIMS) and also controls the sparge water tank temperature. Uses
thermistors to monitor temps- 2 on the RIMS and 1 in sparge water
tank.

Controls AC power supply to two 1500W heaters via optoisolators/
zero-crossing driven triacs. Setpoints are entered via 4 keys.
Elapsed times, temperatures, setpoints and heater statuses are
displayed on a 2x16 LCD. Sends data via RS232 to a PC for logging

and analysis.

```
========================================================================
Title : Stamp 1 and ISD 25XX Sound Chip Application [# 033]
========================================================================
Date : 960605
Author: Ed Buckley
E-mail: ed@Milinst.demon.co.uk
------------------------------------------------------------------------
Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : E-mail author
------------------------------------------------------------------------
Description :
```

Interfacing the Stamp 1 and the ISD 25xx series sound chips to give an intercative demonstration of the Stamp's ability. The ISD 25xx chips allow recording and playback of a number of discrete messages up to a total of 90 seconds long.

The Stamp is used in this application to control the chips activities in Operational Mode- message cueing. The Stamp looks for one of four buttons to be pressed and then controls the ISD chip to play the approprate message.

Great for simple demonstration boards exhibitions etc.

```
========================================================================
Title : Camera Wireless Controller [# 034]
========================================================================
Date : 960611
Author: David Kazdan
E-mail: dxk10@po.cwru.edu
------------------------------------------------------------------------
Stamp model : BS1-IC Module
Code available: YES
Filename : N/A
URL : E-mail author
------------------------------------------------------------------------
Description :
```

My need was to put a Canon Rebel XS under radio remote control that separated out the focus function (button half-press) and shutter release (button full-press). Solution was to use off-the-shelf model radio control equipment and a BASIC Stamp.

Stamp plugs into the R/C receiver and decodes one channel. Stamp output is two transistors wired to a subminiature stereo plug which plugs directly into the Canon. Many other cameras have similar interfaces.

```
=========================================================================
Title : Simple Battery Check using the BS2-IC [# 035]
=========================================================================
Date : 960613
Author: Beau Schwabe
E-mail: bschwabe@ionet.net
-------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
URL : Se below
-------------------------------------------------------------------------
Description :

External Components:

.01uF "ZTR" capacitor (Zero Temp Response)
100K Resistor

Directions:

1 - Connect the CAPACITOR and RESISTOR in parallel.
2 - Connect one side of the RC to Vin
3 - Select an available pin on the BS2 for the other
side of the RC.

Program:

Battery var byte

Start:
low {pin#}
rctime {pin#},0,Battery
Debug home,? Battery
goto Start

Typical Results:

85 - Fresh 9 Volt Battery
220 - Low 9 Volt Battery

Note:

Number INCREASES as Battery weakens...

=========================================================================
Title : Photocell MIDI Controller [# 036]
=========================================================================
Date : 960501
Author: Matt Rogalsky
E-mail: matt@lo-cal.music.wesleyan.edu
-------------------------------------------------------------------------
Stamp model : BS2-IC Module
Code available: YES
Filename : N/A
```

URL : http://lo-cal.music.wesleyan.edu:8000/device.html

Description :

"Light Harp" photocell MIDI instrument: an aluminum triangle with 6 photocells in base and built in light source at apex. BS2-IC reads photocells via multiplexer (NS CD4051BC) into 8-bit A/D (NS ADC0831, a la Parallax application note).

For each photocell, if light falls below a given threshold, a MIDI note-on message is sent out pin 15 of stamp. Photocell then won't reset until threshold is exceeded again.

This simple instrument was built at STEIM in Amsterdam to use with the STEIM SensorLab, then adapted at Western Front, Vancouver, to work with the BS2.

==========
Title : DCF-Clock [# 037]
==========
Date : 960628
Author: Gerrit Polder
E-mail: g.polder@cpro.dlo.nl

Stamp model : BASIC Stamp Rev. D
Code available: YES
Filename : DCF.BAS
URL : E-mail author

Description :

This application interfaces a dcf receiver module to the BASIC Stamp. The dcf module receives time information from the standard time transmitter in Mainflingen (Germany).

The basic stamp converts this information to rs-232. Each second it output's a complete time string at 2400 bps. A description of this application can be found in Elektuur 7/8 1996.

==========
Title : Radio-controlled Digital Clock [# 038]
==========
Date : 960628
Author: Ian Harries (project supervisor)
E-mail: ih@doc.ic.ac.uk

Stamp model : BS2-IC Module
Code available: N/A
Filename : N/A
URL : http://www.doc.ic.ac.uk/~ih/teaching/radclock.html

Description :

This student project was completed very successfully.

The objective was to program the BASIC Stamp II to continually
decode the data from a radio receiver tuned to the time signal
broadcast by the National Physical Laboratory in Rugby (UK).

The resulting time and date information was to be displayed and
updated on an LCD panel.

Check out the WWW page for more information.

```
=========================================================================
Title : Weather Station I [# 039]
=========================================================================
Date : 960701
Author: Christer Johansson
E-mail: cj@hth.com
-------------------------------------------------------------------------
Stamp model : BS1-IC Module
Code available: N/A
Filename : N/A
URL : Soon to come
-------------------------------------------------------------------------
```

Description :

This weather station is able to measure temperatures from -55 to 125
degree C, wind speeds from 0-50 m/s and wind directions from 0-360
degrees and sends the results via an RS-232 compatible interface to
a PC running a companion program written in Visual BASIC.

The VB program running on the PC polls the BASIC Stamp at regular
intervals and performs corrections and average calculations as well
as presentations and logging of the measured weather data.

```
=========================================================================
```

1.5 Credits and other things

Credits should go to all of you who makes this list possible I hope
it suffices to say "Thank you to all who have contributed to L.O.S.A
- we all appreciate it."

Special thanks to all of you at Parallax, Inc. who makes and support
this great products !

If there is anything you think I've missed (or spelled wrong <g>) I
would love to hear from you so we could make this list even better.

You could reach me at the following e-mail address: cj@hth.com

Stay tuned,

/Christer

```
-------------------------------------------------------------------------
```

Copyright (c) 1996 HTH. All rights reserved. Parallax, BASIC Stamp,
and PBASIC are trademarks of Parallax, Inc. PIC is a registered
trademark of Microchip Technology, Inc. Other brand and product names
are trademarks or registered trademarks of their respective holders.

-=-=-=

4184. Re: Simple microwave transceiver information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: frank.dinger@zetnet.co.uk
Message-ID: <4reumb$g3k@roch.zetnet.co.uk>
Source record: 104314

In message <31d5fe39.12640494@NEWS.LANMINDS.COM>
g-aid@lanminds.com writes:

> For practical information on microwave transceiver construction,try to
> get hold of the "VHF-UHF Manual" by D.S. Evans and G.R. Jessup,
> published by the Radio Society of Great Britain (their counterpart of
> thr ARRL). Try your local university/engineering library.

> Although first published in the 70s, the material is quite relevant
> for beginners and the book might still be in print. To order, try
> writing the RSGB at 35 Doughty Street, London WC1N 2AE, England.

===== comments GM0CSZ / KN6WH
Since about 20 years the RSGB is located at Lambda House-Cranborne Road,
Potters Bar ,Herts EN6 3JE England.

I do have a copy of the referred VHF / UHF Manual , Fourth Edition
,lastly reprinted in 1992.

The RSGB now also publishes a set of books specific for microwave
technology /operation called : Microwave Handbook Volumes 1-2 & 3.
Cost of the 3 volumes, UK Pounds 25.50 incl packing and postage for
UK destinations. Also available to non-members for the same price.

Frank Dinger , Inver by Tain , Ross-shire IV20 1RX - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4185. How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: skubi@angela.inria.fr
Message-ID: <4rekb7$4e8@news-rocq.inria.fr>
Source record: 104315
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I do not understand the principle of the simple directional RF wattmeter.

I consider the following setup: a line carries RF power in two directions simultaneously (eg. power flows from transmitter to antenna, and, because of impedance mismatch at the antenna, some power is reflected back to the transmitter).

A section of this line is made of strip line. There is a second section of strip line, parallel to the first one (and, thus, inductively coupled with it). The second strip line goes from a loading resistor which suppresses wave reflection to an AC voltmeter.

Both sections of strip lines are much shorter than the wavelength of the measured RF signal (which may be as long as 160 m in some ham applications)

Here comes a picture:

```
Main line ----------------------------------------------------------

Second line ------------------------
| |
--- ---
| | | V | AC voltmeter
Anti-reflection | | ---
resistor | | |
| | |
--- |
|
|
```

According to what I have read this is a directional wattmeter: the reading of the voltmeter depends only on the amount of power going through the main line from left to right; the power which goes from right to left has no effect on the measurement.

Therefore, depending on the direction in which you connect this device, you can measure separately the power sent from transmitter to antenna or the power reflected back. With two devices like this, you can directly read the SWR.

This is magic.

I don't understand why and how it works.

Can somebody explain ?

Thanks in advance,

Marcin.

4186. Re: HF Emergency - An Ex

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Chris FormyDuval <cdformyd@pop-in.ncsu.edu>
Message-ID: <31DA346E.6A20@pop-in.ncsu.edu>
Source record: 104316

ED WELCH wrote:
>
> -> B ->Don't the phones need electrical power to work? I know that when
> -> power in >my house goes out, the phone still works, but not if it
> -> works both ways:
> -> >I know we can call the power company and tell them, but can people
> -> also
> -> >call in to us? I'd assume not, the ringer wouldn't work?
> ->
> -> The phones (except cordless) will still work, the dialing and
> -> ringing power is provided from the plant (central exchange) and they
> -> have backup batteries (truck batteries with a pituitary problem) and
> -> generators to provide power when commercial power fails.
>
> Well, from personal experience with hurricane OPAL here in Crenshaw
> County, Alabama the phones will work after loss of power......for a
> while. Once the batteries go down, though, it's all over with. For
> most of the day after OPAL came through we had great service, matter of
> fact we used the phone as the eye passed through our area that night.
> Later that afternoon they went out. We were fortunate, we were only
> out of phone service for about 5 days. FWIW.
>
> ed.welch@cheaha.com

One problem in an emergency is that you may not readily get a dial tone
due to overloaded circuits. If you desparately need to make a call and
don't get a dial tone, don't hang up, it could take an hour or more to
get a tone. The system should eventually get to you but you lose you
place in the queue if you hang up. If you provide emergency services you
might can be put on a priority list from your local telco. These numbers
receive higher supervision priority.
chris

4187. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: "C. J. Hawley" <c-hawley@uiuc.edu>
Message-ID: <31DAF9F9.1FCB@uiuc.edu>
Source record: 104317
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Skubiszewski Marcin wrote:
>
> I do not understand the principle of the simple directional RF wattmeter.
>
> I consider the following setup: a line carries RF power in two
> directions simultaneously (eg. power flows from transmitter to
> antenna, and, because of impedance mismatch at the antenna, some power
> is reflected back to the transmitter).
>
> A section of this line is made of strip line. There is a second
> section of strip line, parallel to the first one (and, thus,
> inductively coupled with it). The second strip line goes from a
> loading resistor which suppresses wave reflection to an AC voltmeter.
>
> Both sections of strip lines are much shorter than the wavelength of
> the measured RF signal (which may be as long as 160 m in some ham
> applications)
>
> Here comes a picture:
>
> Main line --
>
> Second line ------------------------
> | |
> --- ---
> | | | V | AC voltmeter
> Anti-reflection | | ---
> resistor | | |
> | | |
> --- |
> |
> |
>
> According to what I have read this is a directional wattmeter: the
> reading of the voltmeter depends only on the amount of power going
> through the main line from left to right; the power which goes from
> right to left has no effect on the measurement.
>
> Therefore, depending on the direction in which you connect this
> device, you can measure separately the power sent from transmitter to
> antenna or the power reflected back. With two devices like this, you
> can directly read the SWR.
>

> This is magic.
>
> I don't understand why and how it works.
>
> Can somebody explain ?
>
> Thanks in advance,
>
> Marcin.

Transmission Lines by Johnson, Walter C. has a good explanation...p.190.

He says that the resistor is some value between the two extremes of infinity and zero and that the probe responds to both voltage and current. He also says that the backward traveling wave has the phase of it's CURRENT reversed and this reversed signal can be used to cancel the one obtained from the backward traveling VOLTAGE.

So he writes: Ecoupler = C1*E + C2*I where E and I are the voltage and current of the main line , and C1 and C2 are constants.

E = (E+) + (E-) and I = (E+)/Zo - (E-)/Zo and then

Ecoupler = C1*[(E+) + (E-)] + C2*[(E+)/Zo - (E-)/Zo]

If you adjust the coupling so that C1 = C2/Zo, the two terms containing (E-) will cancel leaving only

Ecoupler = 2*C1*(E+)

then the coupler responds only to waves traveling in one direction.

I know this will take a little soaking in but it is all you need to reveal the magic.

Chuck, KE9UW

4188. Re: Homebrew FSK modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960703124650.23583C-100000@spork.callamer.com>
Source record: 104318
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

JAMECO in Belmont, Ca also has them for about nine bucks..Cliff K7RR

On Tue, 2 Jul 1996, David Sipe wrote:

> Kevin Pounders wrote:
> >
> > I am trying to build an FSK modem for use on 2M packet, but the plans I
> > have calls for a TI TCM3105 FSK modem chip.
> >
> > I have contacted all of the component suppliers that I know but am unable
> > to locate this chip (is now obsoulite). The one exception had a minimum
> > order of 20 pieces.
>
>
> I don't believe the TCM3105 is obsolete. Texas Intruments still makes them and
> they are available through Allied Electronics for about $9.00 each according to
> their latest catalog #956. The only catch is have a minumum order of $25.00.
> Phone 1-800-433-5700 or check out thier parts lookup for prices and stock at
> http://www.allied.avnet.com.
>
> Good luck.
>
> --
> 73 David KD6QFZ
> dsipe@calweb.com
>
>

4189. Buildind a Receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Yakov Feferman <drjackle@webspan.net>
Message-ID: <31DADA78.60C5@webspan.net>
Source record: 104319

Hi! I am new to the HAM circuit an I would like some info on how to make my own receiver.
If you can please e-mail me or post schematics or descriptions of how to modify old radios.
thanx

4190. QN - info on connection to internet via hf ham radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Tony Price <daprice@wave.co.nz>
Message-ID: <4rdhbc$512@Axil.wave.co.nz>
Source record: 104320

If anyone can suggest sources of info on the above then please email me
on daprice@wave.co.nz

Thanks
Tony Price ZL2VG

4191. Question: Reusing Cell Phone on Ham Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Larry Grove <lgrove@corp.atl.com>
Message-ID: <1996Jul3.224345.4638@atl.com>
Source record: 104321

I was given a working cell phone. It is of the type that is installed in cars, so the RF section is not super-miniaturized.

Is it possible to re-use the cell phone's transceiver on a ham band? Has anyone done such a thing and where could I find more information about doing such a thing? (magazines, www URLs, etc)

Thanks...

4192. Re: OLD A.M. KILLOWATT BROADCAST TRANSMITTER WANTED

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <Awf$qBAAlv2xEwfY@briano.demon.co.uk>
Source record: 104322
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.swap

In article <4r3ein$shn@rosebud.ldp.com>, Rolfe Tessem <rolfe@ldp.com>
writes
>In <31D218F3.5CFD@worldnet.att.net>, Clifford Soderback <Cliff-
>s@worldnet.att.net> writes:
>
>> Almost all older AM broadcast transmitters used 208volt 3 phase
>>power. Which is not usually availble at your home.
>
>This is no doubt true of the higher-powered transmitters, but I don't
>believe it to be true of any of the 1 kilowatt models I'm familiar
>with. For example, the Collins 20V-2 I recently purchased runs off
>220v single phase. The plate transformers normally have primary taps
>to account for line voltage variations.
>
>> A popular 1 kilowatt output design used by several manufacturers
>>was to have a pair of 833A's sometimes modulated by another pair of
>>833A's.
>
>True enough. The Collins runs a pair of 4-400s modulated by another
>pair.
>
>> Now the bad part, all of these old transmitters had PCB
>>capacitors in them. Most of the older transmitters have been
>>disassembled and the capacitors shipped to a disposal site. If one
>>of these caps were to leak or explode it would be a major hazardess
>>waste cleanup. The PCB liability was the primary reason these
>>transmitters were scraped.
>
>Actually, I question this since it's the *disposal* of PCBs that is
>the problem. As long as the transmitter is sitting in a barn
>someplace, there is no problem. I don't know that small AM broadcast
>stations of the class which would be running 1kw were (or are)
>terribly concerned about how things are disposed of. I suspect most
>transmitters are disposed of thusly: If you show up and haul it off,
>it's yours. Don't forget that the PCB hazard came to light when PCBs
>were dumped into rivers and entered the food chain. PCBs sitting
>inside a sealed capacitor are not something to lose any sleep over,
>unless you plan on eating the capacitor for dinner.
>
>Rolfe
>W3VH
>
>--

>Rolfe Tessem | Lucky Duck Productions, Inc.
>rolfe@ldp.com | 96 Morton Street
>(212) 463-0029 | New York, NY 10014

-hello
if you want to buy a killowatt tx you could try marc christian at
telfordelectronics@telford2.demon.co.uk
or at his works "the stables
" HUMBERS LANE
" donnington
" telford
" shropshire
" u.k.

no pcb in these their transistorised ex diplomatic services

anyway pcb is ok but if you burn it incorrectly it makes dieldrin or
something like agent orange my mind is misty these days

-
Brian Olliver

4193. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: "Dale \"Squeak\" Porray" <ad7k@accessnv.com>
Message-ID: <31DB5BE0.62F@accessnv.com>
Source record: 104323
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

(extraneous newsgroups deleted)
Gary Coffman wrote:
...snip
KC7QZR@olywa.net writes:
snip ...
> >
> >I have a few Questions...
> >
> >I need info on building a Mobil Mag mount antenna for my Truck to use
> >with my HTX-202..
> >But, then, on the other hand, you can buy a Valor VAA-002BN, quarter-wave mag mount with a BNC connector on the coax, complete, for $21.95 ... or an MFJ 1724B quarter wave mag mount with PL-259 on the coax AND the SO-230/BNC adaptor for $14.95 ... not to say that building isn't fun and interesting and educational, but sometimes the cost outweighs the advantages!

Good Luck!

"Squeak" Porray, AD7K
Manager, Amateur Electronic Supply/Las Vegas

4194. Re: Need help in building a 2 M mobil antenna

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <NgN8OFAJpv2xEwfX@briano.demon.co.uk>
Source record: 104324

In article <31d60c32.2371491@news.olywa.net>, ANaRcHyU
<anarchyu@olywa.net> writes
>Howdy..
>
>I want to build my own 2 meter antenna for my handheld radio which i
>will be using in my truck.. I am on a extremly tight budget (i mean
>i have like 20 bucks i can spend) i have a bunch of connectors and
>such that i have from a antenna i made that plugs right onto my radio
>and that works great, but doesnt work great when i am driving. I have
>a large rectangular magnet (which i can cut to size) for making it
>magnet mountible. If anyone has an IDEA or drawing or something they
>can send me that may help, PLEASE e-mail me at KC7QZR@olywa.net and
>tell me!!
>
>I also have a supply (60 feet or so) of 12 gauge copper house wire
>(new never used) if that would work for part of the antenna.
>
>Thanx for any help you can give!!
>
>Brad
>
> _\\|//_
> (` o-o ')
>-------------------------------ooO-(_)-Ooo--------------------
> KC7QZR
> KC7QZR@olywa.net .oooO Oooo.
> www.olywa.net/anarchyu ( ) ( )
>------------------------------\ (-------) /-------------------
> _) (_/
>Proud to say I am a Member of the Capitol Peek Repeater Group!
> 145.470 - Tumwater Wa.
>

-hello
have a look at arrl or similar for the details of a "halo" antenna
i could make it for about $4-00 from ali curtain rail and it gave good
results on my old motorcycle in the 70's
halo horizontal = horiz polarization vert = ?
from G8DQQ-
Brian Olliver

4195. Shortwave broadcast wanted...

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: gerrad madden <radiol@iol.ie>
Message-ID: <4remmi$mcr@nuacht.iol.ie>
Source record: 104325

I am currently trying to locate a 200-1000watt broadcast shortwave rig.

If someone has something in europe, either factory built or homebrew.

Please contact as soon as possible.

Thanks

Tony:- radiol@iol.ie

4196. Re: Simple microwave transceiver information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9606038364.AA836432552@mail.creo.bc.ca>
Source record: 104326

In article <31d5fe39.12640494@NEWS.LANMINDS.COM>, g-aid@lanminds.com
writes:

> For practical information on microwave transceiver construction,
> try to get hold of the "VHF-UHF Manual" by D.S. Evans and G.R.
> Jessup, published by the Radio Society of Great Britain (their
> counterpart of the ARRL). Try your local university/engineering
> library.
>
> Although first published in the 70s, the material is quite relevant
> for beginners and the book might still be in print. To order, try
> writing the RSGB at 35 Doughty Street, London WC1N 2AE, England.

Correction on the RSGB's address:

Radio Society of Great Britain
Lambda House
Cranborne Road
Potters Bar, Hertfordshire EN6 3JE
England

phone: +44 1707 659015

The new RSGB publication "Practical Transmitters for Novices" includes
comprehensive chapters on 1296 MHz and 10 GHz. It's up to date, and
cheap to boot.

Yes, I am an RSGB member. So I can't disclaim an interest in people
buying RSGB publications - the stronger the organisation, the better
it can represent the interests of amateurs!

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

4197. Re: Simple microwave transceiver information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-03 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <836422823snz@lfheller.demon.co.uk>
Source record: 104327

In article <31d5fe39.12640494@NEWS.LANMINDS.COM> g-aid@lanminds.com writes:

> For practical information on microwave transceiver construction,try to
> get hold of the "VHF-UHF Manual" by D.S. Evans and G.R. Jessup,
> published by the Radio Society of Great Britain (their counterpart of
> thr ARRL). Try your local university/engineering library.
>
> Although first published in the 70s, the material is quite relevant
> for beginners and the book might still be in print. To order, try
> writing the RSGB at 35 Doughty Street, London WC1N 2AE, England.
^^

The RSGB moved from there many years ago! Current address is Lambda
House, Cranborne Road, Potters Bar, Herts. EN6 3JE.

73, Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

4198. Re: LORAN C

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: w1gak@mindport.NET
Message-ID: <199607040349.XAA05420@polaris.mindport.net>
Source record: 104180

I have a sitex loran c that I am about to canabilize for the TCXO 10 MHZ osc.
TRADE?

4199. Help PLS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: Demetre Koumanakos <demetre@intranet.gr>
Message-ID: <31DBC244.4892@intranet.gr>
Source record: 104181
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.homebrew

CQ Netters,

While browsing through 73 magazine I spotted an advertisement
for a kit of a 2 meter radio that used a Voltage Diode method
of frequency control. Is anyone familiar with this method of frequency
control? How does one program the radio channels on radios with
this kind of technology?
I tried contacting the distributors of the kit, but because of
the time difference and the distance involved a reply may take some
time...
Please reply via e-mail...

73

-- .- -.-. . -.. --- -. .. .- .. ..-.. .-.. . -. .. -.-.
+---------------------------+---------------------------------+
| DEMETRE KOUMANAKOS | "If it ain't broke leave it !" |
| PROJECT COORDINATOR D.P.D. +---------------------------------+
INTRACOM S.A.	I may be reached at:
HELLENIC TELECOMMUNICATIONS	
AND ELECTRONICS INDUSTRY	e-mail: demetre@intranet.gr
	phone: +301-6860000 ext. 4345
P.O.BOX 68, PEANIA 19002	fax: +301-6860312
HELLAS	cell: +3094-515916
+---------------------------+---------------------------------+

4200. Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: Bill Meara <w.meara@codetel.net.do>
Message-ID: <4rg6p0$hbd@server2.codetel.net.do>
Source record: 104182

Here's a question that has been bothering me for a long time:

Why is it that it becomes more difficult to generate RF power as we increase frequency? Why do HF transceivers often have more power out on 80 meters than they do on 10? Why is it so difficult to get lots of power out in the VHF and UHF ranges?

TIA 73 Bill N2CQR/HI8

4201. Dalanco Spry TMS320C10 board ham pgms not on TAPR ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: rrrath@aol.com
Message-ID: <4rg4i9$r5b@newsbf02.news.aol.com>
Source record: 104183

Hi,
I have got a "naked" DSP card with the 320C10.
Have found several pgms on TAPR server.
Has anyone further pgms especially for ham (RTTY, amtor etc) use ??
Would also be glad about hint of documentation of said card.
73s Robert
DJ0RA

4202. Cw on 2M FM rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: tony@wilkes.ak.planet.co.nz
Message-ID: <456@wilkes.ak.planet.co.nz>
Source record: 104184

I have an Kenwood TW4000 2m AND 70cm FM rig with no cw key socket
The query could apply to many FM rigs however.

Is there any risk of damage to the rig if I key the push-to-talk
pins on the mic input socket ?????? and would the output be OK in
waveshape as a clean CW signal ????

If you have done this please let me know your results

Thanks
73 Tony

Tony Wilkes --- Whangaparaoa, North Island, New Zealand
Interests - Ham Radio ZL3SLH- Royal Forest & Bird - Croquet

4203. FS : Cablewave Hardline Connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: paulc@esslink.com
Message-ID: <4rghg8$8t1@news.esslink.com>
Source record: 104185

Hello All,

I have the following list of hardline connectors for sale
All connectors are used but in good condition.

(1) of HCC-78-50NM for 7/8" air

(2) of HCC-78-50NF for 7/8" air

(2) of FLC-78- 50NF for7/8" foam

(3) of FLC-12-50NM for 1/2" foam

All 7/8" connectors are $20.00 and the 1/2" are $10.00

PaulC@esslink.com

4204. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: kd1hz@anomaly.ideamation.com
Message-ID: <4rggua$ah3@anomaly.ideamation.com>
Source record: 104186
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <31db143a.4297332@news.netins.net>, tkc <TKC@NCN.NET> wrote:

>">I have 12 guage wire i can use, but need a little info, what length
>">should i cut it at, to use it at 145.470 (local Repeater) I dont
>">have any kind of swr meter or anything but my radio which will let me
>">know when its pumping out full power...
>
> Just a second...
>When we took the Ham test didn't we have to show that we could figure
>frequency to wave length?

No, you merely showed that you knew how to memorize all the questions and
answers provided to you in advance.

MD
--
--
-- Who needs looks when you've got taste?
--
-- If you don't like my opinions, that's just too damn bad.

4205. HAM INFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: timc@eagle.freespace.net
Message-ID: <4rgdqm$q6f@eagle.freespace.net>
Source record: 104187

I was wondering if there are any sources on the net that cater to the Amateur radio hobbyist in Canada. I'm trying to find information on getting my license so I can join in on all the fun, but I keep finding all these pages that cater to the american ham.

If you can help me, please do !

Thanks
Tim Carter
timc@freespace.net

4206. Wanted: VLF Beacon & antenna design info.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: lrware@aol.com
Message-ID: <4rglt4$1rq@newsbf02.news.aol.com>
Source record: 104188

Hello, if someone has the above data and would be willing
to share for copying and postage I would like to hear
from you...
Thanks,
-Larry Ware
lrware@aol.com

#
-Larry Ware, lrware@aol.com
collector of Vintage Electronic Test Equipment
(Tek, HP, the good stuff!)
Communications Receivers, old Electronics Books & Manuals
and Phone-Cards.
What have you got?
#

4207. MOTOROLA IC'S AND TRANSISTOR DATA ON-LINE!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: fsimonds@icanect.net
Message-ID: <4rgpkv$ou3@news.icanect.net>
Source record: 104189

Check out http://design-net.com/cgi-bin/dlsrch

At this URL you'll find a search engine that will return data on all Motorola semiconductor products,. In addition, you can order data sheets, data books, etc.

Good stuff!

73--Terry/WB4FXD

4208. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4rgq8s$s7o@cc.iu.net>
Source record: 104190
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <31db143a.4297332@news.netins.net>, tkc@ncn.net (tkc) writes:
>On Mon, 1 Jul 1996 16:05:14 GMT, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>
>"In article <61e7cc$173112.3a2@MYCROFT> KC7QZR@olywa.net writes:
>">I need info on building a Mobil Mag mount antenna for my Truck to use
>">with my HTX-202..

KC7QZR needs to learn how to spell "Mobile". "Mobil" is a petroleum company.
Although, I suppose, they could branch into new markets (I don't know if they
still have a stake in Montgomery Wards or not after the Jefferson/Jefferson Wards
debacle (A whole new slant on shopping - unstocked shelves because we fired
our buyers....8)))

>">I have 12 guage wire i can use, but need a little info, what length
>">should i cut it at, to use it at 145.470 (local Repeater) I dont
>">have any kind of swr meter or anything but my radio which will let me
>">know when its pumping out full power...

i guess one would want to get the most from any radio transmitter, but that
phrase about "pumping out full power" is very "CBish" - sounds like maybe
a refugee from the CB bands that hasn't been exposed to the idea that some
people actually have radios used for bidirectional communications instead of just
trying to "cover everyone up".

>"You can make a whip from just a 19 inch length of wire and a coax
>"connector, IE take a PL-259,

good answer -- tell the guy what he needs to know - i think my answer was
a pointer to the arrl handbook...

> Just a second...
>When we took the Ham test didn't we have to show that we could figure
>frequency to wave length?

it's in the study materials, although it's possible to pass the test without
having that exact question either on the test or answering it correctly.

>I don't want to flame anyone but it was a basic fact of radio,, I thought.

it is..

> Dean WB0TKC

but like last night on one of the VHF nets i was on, we had a guy that
was on the air but didn't know what his call was...turned out he'd acquired a
radio from someone else and was told it was a CB radio. we told him what he

really had and what he should do to get legal and then went back to the net.

it sounds like KC7QZR could use an elmer and additional reference materials.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

4209. Re: How do directional RF wattmeters work ?

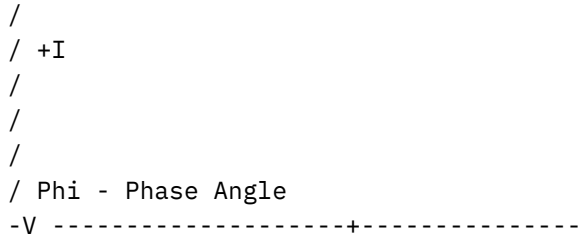
Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <4rgn3r$jq0@itnews.sc.intel.com>
Source record: 104191
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

"C. J. Hawley" <c-hawley@uiuc.edu> wrote:
>I know this will take a little soaking in but it is all you need to reveal
>the magic.

Something else that might help is a vector diagram. Let's say we have a voltage vector proportional to the transmission voltage and another voltage vector proportional to the transmission line current. When there are no reflections, these two vectors are adjusted (calibrated) to be equal in magnitude and phase referenced to the Z0 of the line. Then either with reflections (out of phase V and I) or without reflections (in phase V and I) the following holds:

V(i) (vector add) V(v) is proportional to the forward power and

V(i) (vector sub) V(v) is proportional to the reflected power.



Let's say we have 10v proportional to the voltage and 10v proportional to the current and are generating 100w. The following would be true.

For Z0=50 ohms, V(v)=10v is proportional to 71 volts on the line
V(i)=10v is proportional to 1.4 amps on the line

For Z0=75 ohms, V(v)=10v is proportional to 87 volts on the line
V(i)=10v is proportional to 1.15 amps on the line

For Z0=300 ohms, V(v)=10v is proportional to 173 volts on the line
V(i)=10v is proportional to 0.58 amps on the line

For Z0=450 ohms, V(v)=10v is proportional to 212 volts on the line
V(i)=10v is proportional to 0.47 amps on the line

That's why an SWR meter calibrated for 50 ohms needs to be recalibrated to work with 75 ohm line.

73, Cecil, W6RCA, OOTC (not speaking for my employer)

4210. Re: Question: Reusing Cell Phone on Ham Band

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <4rgnje$jq0@itnews.sc.intel.com>
Source record: 104192

Larry Grove <lgrove@corp.atl.com> wrote:
>Is it possible to re-use the cell phone's transceiver on a ham band?

Hi Larry, it would be a major project. You would have to change components and readjust the PLL to lock on the 902 MHz band. But the major task would be to replace the internal ROM microcontroller with an identical microcontroller with a different program which, even for me, would be a major development project. You would need complete documentation on the device, something that is hard to come by. It would be much easier to design a 902 MHz HT from scratch, at least for me.

73, Cecil, W6RCA, OOTC (not speaking for my employer)

4211. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: rwc@io.com
Message-ID: <4rgtmc$hop@nntp-1.io.com>
Source record: 104193
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Bill Newkirk (wnewkirk@iu.net) wrote:
: In <31db143a.4297332@news.netins.net>, tkc@ncn.net (tkc) writes:
: >On Mon, 1 Jul 1996 16:05:14 GMT, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
: >
: >"In article <61e7cc$173112.3a2@MYCROFT> KC7QZR@olywa.net writes:
: >">I need info on building a Mobil Mag mount antenna for my Truck to use
: >">with my HTX-202..
:
: KC7QZR needs to learn how to spell "Mobile". "Mobil" is a petroleum company.
: Although, I suppose, they could branch into new markets (I don't know if they
: still have a stake in Montgomery Wards or not after the Jefferson/Jefferson Wards
: debacle (A whole new slant on shopping - unstocked shelves because we fired
: our buyers....8)))
:
: >">I have 12 guage wire i can use, but need a little info, what length
: >">should i cut it at, to use it at 145.470 (local Repeater) I dont
: >">have any kind of swr meter or anything but my radio which will let me
: >">know when its pumping out full power...
:
: i guess one would want to get the most from any radio transmitter, but that
: phrase about "pumping out full power" is very "CBish" - sounds like maybe
: a refugee from the CB bands that hasn't been exposed to the idea that some
: people actually have radios used for bidirectional communications instead of just
: trying to "cover everyone up".
:
: >"You can make a whip from just a 19 inch length of wire and a coax
: >"connector, IE take a PL-259,
:
: good answer -- tell the guy what he needs to know - i think my answer was
: a pointer to the arrl handbook...
:
: > Just a second...
: >When we took the Ham test didn't we have to show that we could figure
: >frequency to wave length?
:
: it's in the study materials, although it's possible to pass the test without
: having that exact question either on the test or answering it correctly.
:
: >I don't want to flame anyone but it was a basic fact of radio,, I thought.
:
: it is..
:

: > Dean WB0TKC
:
: but like last night on one of the VHF nets i was on, we had a guy that
: was on the air but didn't know what his call was...turned out he'd acquired a
: radio from someone else and was told it was a CB radio. we told him what he
: really had and what he should do to get legal and then went back to the net.
:
: it sounds like KC7QZR could use an elmer and additional reference materials.
:
: Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
: Melbourne, FL duty now for the future of amateur radio
: Lombardi's 1st Law of Business:
: Companies succeed in spite of their best effort. If they succeed at all.
:

Well, I *was* looking into possibly starting a hobby out of HAM.
But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I see that
the attitudes and childishness isn't lmited to the people on "CB" Radios.
Perhaps HAM isn't for me after all, if Bill is any indication of the
types of people that are out there.
Oh, and by the way, Bill - while you were busy slamming this
other guy for his spelling, I noticed YOU need a few grammar lessons as
well, things that were learned in Elementary School.... such as when you
end a sentence while quoting, the period goes inside the quotes, not
outside. Also you seem to have forgotten to end a sentence or two with a
period. Hmm. Seems you aren't the perfect God-almighty after all.
I was told that if a person needed a question answered or some
kind of help, that other HAM operators were happy to help out, and that
the operators of HAM radios were like a family. But what I've just seen
sounds like Channel 19 at a truck stop. No doubt I'll receive a bunch of
childish ranting and raving, cussing, etc in my mail box, so until
then... Ciao!

4212. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: cphillips@interpath.com
Message-ID: <4rhfm2$huo_003@news.interpath.net>
Source record: 104194
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <1996Jul1.160514.17867@ke4zv.atl.ga.us>,
gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>In article <61e7cc$173112.3a2@MYCROFT> KC7QZR@olywa.net writes:
>>Howdy..
>>I have a few Questions...
>>I need info on building a Mobil Mag mount antenna for my Truck to use
>>with my HTX-202..
>>I have been given some advice, but i am looking to build something
>>cheap but looks NORMAL, someone told me to use a coat hanger, etc ..

Actually a 19" piece of coat hanger just looks "black" and doesn't
attract to much attention, except as an antenna.
Twenty years ago, I was having Mosley 5/8 wave 2 meter antennas
stolen off of my car regularly (they looked a lot like CB antennas, and
this was in the middle of the CB craze). So I made a 1/4 wave antenna
from a coat hanger and put it on the car.
A month or so passed. Then, there was a rash of car break-ins,
and *my* car was broken into. My ICOM IC-22A (2 meter rig) was stolen.
And yes... they stole the coat hanger antenna, also.

BTW... after this (and the insurance paid off) I got a new 2 meter
rig and a Hustler colinear antenna. It was never stolen.

>You can make a whip from just a 19 inch length of wire and a coax
>connector, IE take a PL-259, solder the wire to the center pin,
>and slip a piece of shrink wrap down over it so it can't touch
>the outer wall of the connector (filling the cavity with epoxy
>is even better). However, for mobile use you really want something
>other than copper wire. It would be deformed with every tree branch
>impact. What you want is copper plated music wire, with perhaps
>an anti-corrosion nickel overplate. That's what commercial whips

I've used stainless steel welding rods, but even they tend to
deform a bit too readily.

========= Opinions expressed are solely those of the author ============
Curt Phillips, KD4YU (ex-WB4LHI) | "I think that marriage is a
cphillips@interpath.com | great institution. But who
Chairman, Tarheel Scanner/SWL Group | wants to be in an institution?"
ARRL Life; QCWA; Raleigh Am Radio Soc | --- Groucho Marx

4213. Travelling Wave Tube

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: 100604.1242@CompuServe.COM
Message-ID: <960704190113_100604.1242_GHW132-2@CompuServe.COM>
Source record: 104195

Hi there
I am trying to build a 10 Ghz EME station and I want to buy a Travelling Wave tube Amplifier, 20 Watts or more. I already own a 3.5 meters dish with control electronics and the rest of the gear. But I could use some more power. If this works, I will be the only 10 GHz EME station currently active in Switzerland.

Angel Vilaseca HB9SLV

4214. FS: HP 1740A 100Mhz Oscilloscope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: Dan Ellefson <sl3jj@cc.usu.edu>
Message-ID: <31DC2986.489@cc.usu.edu>
Source record: 104196

FOR SALE: HEWLETT PACKARD 1740A ANALOG 100Mhz OSCILLOSCOPE

The unit is a two channel 100 Mhz oscilloscope with two external triggers.
It comes with two HP X10 probes that came with the scope and two B&K X10/X1 probes
that I bought brand new. All the probes are rated at 100 Mhz. The scope is capable
of deflection factors from 1 mV/div to 20 V/div on the vertical scale and 5 ns/div to
20 s/div on the horizontal scale. The scope also has a delayed sweep feature which is
set by a precision control knob which allows delay settings of 50 ns to 20 s. Other
features of the 1740A include simultanous display of both input channels and the trigger,
bandwidth limit control for attenuation of signals above 20 Mhz, plotting channel A vs B,
choice of 50 Ohm or 1 Megohm input impedance, Chop mode, Alt mode, A+B display, channel
B inversion (this allows A-B display), trigger selction of channel A, B, or external,
trigger level control,LF and HF reject on external trigger inputs, AC, DC, Internal and
External triggering, External /10 triggering, and many more features.
Documentation for the scope is included and consists of the 1740A Operator's Guide
and the 1740A Operating and Service Manual with includes detailed schematics of the scope's
internal circuitry.
The scope comes with a soft leather pouch with a velcro closure that is attached
to the top of the unit allowing storage of manuals and probes. A hard plastic cover is
also included that fits snugly over the front face of the scope to protect the controls
and CRT.
The scope is in very good condition with no noticable dents or scratches. I've had
the scope for quite some time and have been very pleased with its performance and the great
many features that come with it. The reason that I am parting with it is because I recently
purchased a brand new $4500 scope (ouch....) and have no need for two scopes.

PRICE: $495 (buyer pays for shipping)

Contact Dan at (801) 787-4374 or EMail me at sl3jj@cc.usu.edu

4215. Re: LORAN C

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960704134432.14947A-100000@spork.callamer.com>
Source record: 104197

OM W1GAK:
Whjy canabilize that Loran for the TCXO? That is one of the few boxes
in which the ten Mhz signal can be locked to the 10-0 KHz Loran signal.
Most others either add or subtract pulses to remain on frequnecy.
Explore with a scope probe near the TXCO as an experiment. Cliff K7RR
On 4 Jul 1996 w1gak@mindport.NET wrote:

> I have a sitex loran c that I am about to canabilize for the TCXO 10 MHZ osc.
> TRADE?
>
>

4216. Re: HAM INFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: AC6V <AC6V@ix.netcom.com>
Message-ID: <31DC3C36.2077@ix.netcom.com>
Source record: 104198

Tim Carter wrote:
>
> I was wondering if there are any sources on the net that cater to the
> Amateur radio hobbyist in Canada. I'm trying to find information on
> getting my license so I can join in on all the fun, but I keep finding
> all these pages that cater to the american ham.
>
> If you can help me, please do !
>
> Thanks
> Tim Carter
> timc@freespace.net

Hello Tim here are some Canadian pages to visit:

Canada: Northern Alberta ARC
Canada: Oliver ARC - VE7OLV
Club de Radioamateur des Chercheurs - (English).
Club de Radioamateur des Chercheurs - (French).
Canada: VE2DM ARC
Canada: Lakehead ARC - Thunder Bay, ONT.
Prince Edward (Ontario) Radio Club
Canada: C.E.M.I.S - Eastern Quebec
Canada: York Region ARC
Canada: HAMBURG - Ham Radio in Saskatoon.
Alberta, Edmonton Radio Amateur Educational Society
BC, North VancouverCanada: North Shore ARC
BC, Prince George ARC
NS, Halifax Canada: Halifax ARC and QSL Bureau
Quebec Club Radio Amateur Amos-Region - (French).
Quebec Canada: Club Radio Amateur de Quebec - (French).
Quebec, Montreal Montreal/W.Quebec Amateur Packet Radio network
Ottawa CANADA's National Capital Region Packet Radio WWW
Ottawa Canada: Ottawa Area Repeaters
Ottawa Telephone Pioneer ARC

You can find clickables for these and more at:

http://uhavax.hartford.edu/~newsvhf/ham-www.html

Also a nice page at:

http://ve7tcp.ampr.org/

Good Luck
73

Rod

--
Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

4217. Re: HAM INFO

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: AC6V <AC6V@ix.netcom.com>
Message-ID: <31DC3CFF.3F08@ix.netcom.com>
Source record: 104199

Tim Carter wrote:
>
> I was wondering if there are any sources on the net that cater to the
> Amateur radio hobbyist in Canada. I'm trying to find information on
> getting my license so I can join in on all the fun, but I keep finding
> all these pages that cater to the american ham.
>
> If you can help me, please do !
>
> Thanks
> Tim Carter
> timc@freespace.net

Hi Tim, lots of Canadian Ham Pages listed on Ron Klimas' page at:

http://uhavax.hartford.edu/~newsvhf/ham-www.html

Also VE7TCP excellent page at:

http://ve7tcp.ampr.org/

Good surfing
73
Rod
--
Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

4218. Re: Homebrew FSK modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: ken.thompson@Symbios.COM
Message-ID: <ken.thompson.1327.00088A94@Symbios.COM>
Source record: 104200
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <31D8D2A8.D6B@qtm.net> Kevin Pounders <pounders@qtm.net> writes:
>From: Kevin Pounders <pounders@qtm.net>
>Subject: Homebrew FSK modem
>Date: Tue, 02 Jul 1996 00:41:28 -0700

>I am trying to build an FSK modem for use on 2M packet, but the plans I
>have calls for a TI TCM3105 FSK modem chip.

>I have contacted all of the component suppliers that I know but am unable
>to locate this chip (is now obsoulite).

It is not obsolete. But I think TI is only making them in surface mount
packages now.

4219. Re: Homebuilt mobile 6 meter / 2 meter antenna?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: "Michael W. Smith II" <michaels@computize.com>
Message-ID: <31DC6DC4.3C3D@computize.com>
Source record: 104201

I believe that MFJ is selling one for about $28.00.....check 'em out.

73's
Michael
N5TGL

Earl Needham wrote:
>
> I'm interested in a combination 6 meter and 2 meter mobile antenna.
> However, at the price for commercially available gear, I'd end up spending
> about $80 US for the antenna, $70 US for the mount, and probably $80 US

4220. WTBuild!: 6 meter Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: "Michael W. Smith II" <michaels@computize.com>
Message-ID: <31DC6EF0.56E9@computize.com>
Source record: 104202

I'd like to build a 6 meter linear amplifier. I'm going to run FM and SSB on it, and I'm wondering what is involved in building one. If someone could point me in the right direction, i'd really appreciate it!!

73's
Michael
N5TGL

4221. BEER & WINE SHIRTS <> LIQUID POUCH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: Natural-by-light@pobox.com
Message-ID: <31dc3327.15958202@news.local.net>
Source record: 104203

Get your Ice Cold Beer ... T-Shirts here!

And A Great Wine Tasting Section Also!

See the shirts with the patented LIQUID POUCH!!

We carry Beer, Wine and even a non-alcoholic shirt for the kiddies!

We invite and welcome to stop by and take a look ..

http://www.wient.com/beer/

Thanks !!

... Duane

I GAVE UP BEER ... it was the worst 15 minutes of my life!

The Beer Shirt Place
800-429-9084 for orders
Visa, MC & Amex

http://www.wient.com/beer/

And Remember ... Beer Isn't Just For Breakfast Anymore!

Stop by and give us a visit!!

4222. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: tkc@ncn.net
Message-ID: <31db143a.4297332@news.netins.net>
Source record: 104328
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On Mon, 1 Jul 1996 16:05:14 GMT, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:

"In article <61e7cc$173112.3a2@MYCROFT> KC7QZR@olywa.net writes:
">Howdy..
">
">I have a few Questions...
">
">I need info on building a Mobil Mag mount antenna for my Truck to use
">with my HTX-202..
">
">I have been given some advice, but i am looking to build something
">cheap but looks NORMAL, someone told me to use a coat hanger, etc ..
">
">I have 12 guage wire i can use, but need a little info, what length
">should i cut it at, to use it at 145.470 (local Repeater) I dont
">have any kind of swr meter or anything but my radio which will let me
">know when its pumping out full power...
"
"
"You can make a whip from just a 19 inch length of wire and a coax
"connector, IE take a PL-259,

Just a second...
When we took the Ham test didn't we have to show that we could figure
frequency to wave length?
I don't want to flame anyone but it was a basic fact of radio,, I thought.
Dean WB0TKC

4223. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-04 00:00:00 UTC
From: jeroen@sp065.cern.ch
Message-ID: <Du0E10.2vE@news.cern.ch>
Source record: 104329
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4rekb7$4e8@news-rocq.inria.fr>,
Skubiszewski Marcin <skubi@angela.inria.fr> wrote:
>I do not understand the principle of the simple directional RF wattmeter.
>

Description of device deleted...

>
>This is magic.

Aye, magic it is! The equivalent microwave device is even called
a 'magic T'. What you described would commonly be called a
directional coupler, but the idea is the same.

Consider that the parallel lines are also coupled capacitively.
For power flowing in one direction, the capacitive and inductive
coupling add, while for the other direction, they subtract.

The trick is to get the coupling just right, so that the
undesired signal is cancelled exactly. (40dB of suppression is
considered fair, generally.)

Jeroen Belleman
Jeroen.Belleman@cern.ch

4224. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: mgkepner@facstaff.wisc.edu
Message-ID: <4rhphs$8o0@news.doit.wisc.edu>
Source record: 104204
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

skubi@angela.inria.fr (Skubiszewski Marcin) wrote:

```
>Main line ----------------------------------------------------------
---------
> Second line |----------------------------------|
> | | -----
> --- --- / / /
> | | | V | AC voltmeter
>Anti-reflection | | ---
>resistor | | |
> | | |
> --- |
> | |
> | |
------------------------
```

I completed your circuit, to complete the directional wattmeter we must add a connection to ground and a capacitance to the center conductor.

Add one of these to each end of the top conductor. Now the top conductor has two voltages imposed on it: one from the inductive coupling due to the current in the main line center conductor and the second from the capacitive coupling due to the voltage on the main line center conductor.

Power flow in different directions results in current in opposite directions, but voltage is just voltage. So for one of these directions the currrent and voltage effects will sum and for the other they will differ. Adjust the capacitance for a good null under the difference condition and you will then have double the output when they sum. Scale the meter to get rid of the 2x difference. Of course this only works for a given I/V ratio, but this is just a transmission line of some chosen, fixed impedance.

Voila', you have a directional wattmeter good for a 50 Ohm line, or whatever line you chose.

Jim


```
-------------------------------------------------------------------------
Melissa Kepner Jim Adney
mgkepner@facstaff.wisc.edu jim.adney@mpcug.com
Laura Kepner-Adney
Madison, Wisconsin
-------------------------------------------------------------------------
```

4225. Re: What is an RF sampler?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: eugene@loop.com
Message-ID: <4riafs$bov@jerry.loop.net>
Source record: 104205

> hepc@hepc.com (Todd Owen) writes:
> Is an RF sampler the same as a directional coupler?
>
> My question concerns "RF samplers" for above 1 GHz.
>
> --Thanks in advance, Todd KE4UDN
>
> --73, Todd KE4UDN
>
> ---
> Todd Owen Hanover Engineers, P.C.
> Richmond, VA 804-730-0011 (Voice)
> 804-730-4012 (Fax)
>
> ke4udn@amsat.org
> ---
>
>
>>>>
A directional coupler has diodes to provide a power indication.

The sampler is used to hook test equipment into circuit ie spectrum analyzer, couter etc.

or couple energy into something else.

de WB6HRO

4226. Mini Ckts MAR-3/6 Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: mfraser@vanbc.wimsey.com
Message-ID: <4rj3ma$jie@wolfe.wimsey.com>
Source record: 104206

Just want a few items from Mini Circuits Labs - who sells in small quantities?

thanks / mark

4227. Re: How do directional RF wattmeters work ?

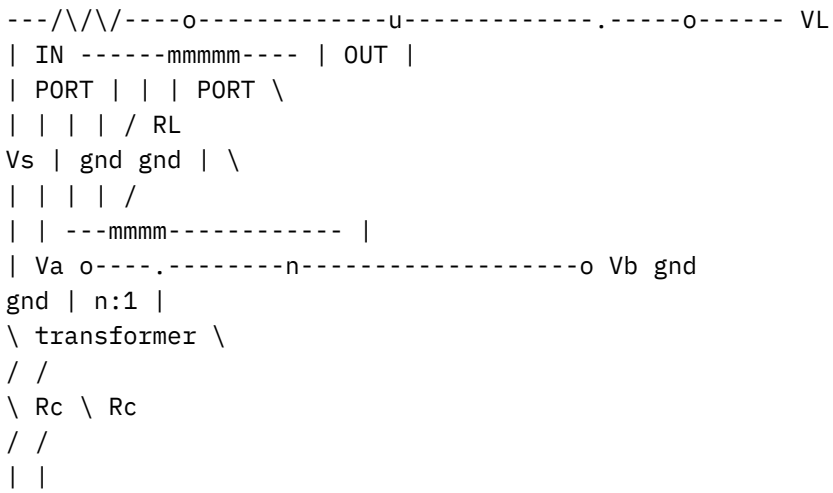
Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4rj9f9$q7g@dfw-ixnews3.ix.netcom.com>
Source record: 104207
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Sometime ago I had the same problem as Marcin - I wanted to understand how an SWR bridge's directional coupler worked, and the only explanations that I could find described its operation in terms of the forward and reflected waves. I had two problems with these explanations:

1. The directional coupler that I wanted to understand was a "lumped-element" not "distributed-element" circuit. That is, essentially it sampled the voltage and currents at one point along the transmission line, and I couldn't understand how one could seperate out the forward and reflected waves by just looking at one point. For me it was equivalent to standing at the seashore and watching the ocean swell - if you just look at one point, you see the water moving up and down as the wave swell passes, but you can't tell the direction of its motion.

2. Also, the directional coupler still operated correctly when a load was connected *directly* to its Antenna port. In this configuration my generator, directional coupler, and load were all attached with very short wires, in essence a "lumped-element" circuit (everything very short compared to the wavelength of the signal). One doesn't usually think of a circuit like this in terms of forward and reflected waves. Instead, you describe it's operation with classical circuit analysis techniques. Realizing this, I sat down to puzzle its operation out, and this is what I came up with:

The direction coupler circuit I analyzed was:



gnd gnd

In this circuit Va and Vb are the two sampling ports, and the value of Rc is set to equal that of the transmission line's characteristic impedance.

From this circuit I derived the following equations (for ease of derivation I assumed a resistive load only):

Vb = (Vs/(2n)((Rc - RL)/(Rs + RL))

Va = (Vs/2n))((Rc + RL)/(Rs + RL))

Note that nothing in these equations mentions forward or reflected waves. However, if you compare them with the standard transmission line equations, their forms are similar.

For example, let's set Va equal to 1 and do some equation substitution. We can derive:

Vb = (Rc - RL)/(Rc + RL)

This looks suspiciously like the equation for the reflection coefficient (well, the negative of it)! We do the equivalent of this derivation when we adjust our SWR meters for full-scale reading in the "forward" direction (that is, set Va = 1), and then read the SWR in the "reflected" position (measure Vb in the above equation).

Marcin drew a different directional coupler circuit in his post - it's a circuit found in many inexpensive SWR meters. I'll contend that one can do a similar analysis on this circuit: after all, if I place it on my work bench in a "lumped-element" circuit configuration, it still functions properly. Therefore one should be able to analyze it's operation with standard circuit analysis techniques in a fashion similar to what I did above. In Marcin's particular circuit, the parallel wires provide both inductive and capacitive coupling, and I would argue that the resistor is not an "anti-reflection" absorbing resistor. Instead, it's function should be explainable in terms of a lumped-element circuit where there are no reflections and where the term "anti-reflection" has no place.

Cheers,

- Jeff, WA6AHL

4228. Re: What is an RF sampler?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: jackl@pinetree.microserve.com
Message-ID: <4rjb2a$re4@crash.microserve.net>
Source record: 104208

eugene@loop.com wrote:
>> hepc@hepc.com (Todd Owen) writes:

>> Is an RF sampler the same as a directional coupler?
>>
>> My question concerns "RF samplers" for above 1 GHz.

>A directional coupler has diodes to provide a power indication.
>
>The sampler is used to hook test equipment into circuit ie
>spectrum analyzer, couter etc. or couple energy into something else.

Not all directional couplers incorporate a means of detecting
power. Many are designed solely for combining or other purposes.

Also, there are a number of means of monitoring power at 1 GHz
and above. Some are directional, others are not, but any one of
them could probably be described as an "RF sampler".

73,
Jack WB3U

4229. homebrew TNC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: gzluhuih@public1.guangzhou.gd.CN
Message-ID: <31DD2076.353E@public1.guangzhou.gd.cn>
Source record: 104209

hello everybody, here is BD7IX(Lu Hui-Hua) from P.R.CHINA.
somedays ago, i send a mail at here , said want to know how
to made a modem(tnc) myself, my plan is use TCM3105 or
AM7910(7911) chip to do it, but unfortunate, the chip is
not produce. soi think maybe motorola's MC145442 OR MC145443
can replace it. but mc145442(3) only can use 300 baud
(CCITT V.21 OR BELL 103).
who can tell me the alternative else?
and if i use MC145442(3), who can give the circuit design about it?
please tell me via e-mail bd7ix@amsat.org
thanks

Lu Hui-Hua*bd7ix*

4230. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4rjb0v$dnc@cc.iu.net>
Source record: 104210
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <4rgtmc$hop@nntp-1.io.com>, rwc@io.com (RWC) writes:
>: but like last night on one of the VHF nets i was on, we had a guy that
>: was on the air but didn't know what his call was...turned out he'd acquired a
>: radio from someone else and was told it was a CB radio. we told him what he
>: really had and what he should do to get legal and then went back to the net.
>:
>: it sounds like KC7QZR could use an elmer and additional reference materials.
>:
>: Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
>: Melbourne, FL duty now for the future of amateur radio
>: Lombardi's 1st Law of Business:
>: Companies succeed in spite of their best effort. If they succeed at all.
>:
> Well, I *was* looking into possibly starting a hobby out of HAM.
>But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I see that
>the attitudes and childishness isn't lmited to the people on "CB" Radios.
>Perhaps HAM isn't for me after all, if Bill is any indication of the
>types of people that are out there.

you didn't read what i wrote. KC7QZR needs to get in touch with the other locals
and probably review the materials he used to study for the test. if he had the
ARRL materials, i believe (relying on memory here) there's even an example
of what he wanted complete with a list of materials, sources of supply and, yes,
even an explaination of why those values are the ones to use (at least at an
entry level explaination...if he wants the engineering version, he can ask for it.)

> Oh, and by the way, Bill - while you were busy slamming this
>other guy for his spelling, I noticed YOU need a few grammar lessons as
>well, things that were learned in Elementary School.... such as when you
>end a sentence while quoting, the period goes inside the quotes, not
>outside. Also you seem to have forgotten to end a sentence or two with a
>period. Hmm. Seems you aren't the perfect God-almighty after all.

didn't say i was. and welcome to deconstructionist typography. i do have damon
knight's treatment on grammar from GEnie that is a super reference for only a
few typewritten pages - at least it addresses the common errors and mis-
conceptions most people make.

and this is news - not english class. they'd take points off for not capitalizing
the first word of a sentence. can't say there's a hard and fast rule about trailing
punctuation inside of quotes these days. depends on the usage to some extent.
i suppose you think that there should be two spaces after a period. although that's
something you did with typewriters and not when you have proportional fonts
available.

> I was told that if a person needed a question answered or some
>kind of help, that other HAM operators were happy to help out, and that
>the operators of HAM radios were like a family. But what I've just seen
>sounds like Channel 19 at a truck stop. No doubt I'll receive a bunch of
>childish ranting and raving, cussing, etc in my mail box, so until
>then... Ciao!

oh, come now. the guy claims a ham license. therefore, it's expected that he knows something about where the information is located about such things as how to build a simple 1/4-wave whip for 2m. but even if he hadn't known that (as i said, you can pass the test without understanding c=f<lambda>), the fact that the lingo is out of whack indicates that our new KC7 needs further orientation.

remember the object is not to "pump out the most power" but to communicate. and if you actually read up above there, we did tell our bootlegging friend on wednesday that he should consider getting license and he would be welcome, but until then he should just listen and not transmit. in that respect, we were correct in that we advised an illegal station to stop being an illegal station and to get the license and be legal. for that, we run the risk of a citation ourselves (for communicating with an unlicensed station).

i don't think that's a sign of someone not wanting to help. however, things such as some misspellings probably comes from having Dr. Moench at Rose as a mentor ("A -rotor- is the part of a motor that moves. A -rotator- is the device that turns the antenna!").

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

4231. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4rjbvr$2a4q@info4.rus.uni-stuttgart.de>
Source record: 104211
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>This is magic.
>
>I don't understand why and how it works.
>
>Can somebody explain ?

Let me add a very simplicistic picture to the maths presentet so far:

The wave traveling down the main line induces a (weaker) wave
in the coupling line. Both travel the same way, because contributions
coupled into the coupling line at different points and travellint in reverse
direction cancel (destructive interference). So if one end of the coupling
line is terminated properly and the other is fitted with a detector, there you
are.

The lumped element indicator probes the voltage and the current at one
point of the line and compares them. Now the current is in phase for
the foreward going wave and out of phase for the backward moving wave.
(That's what makes the waves move). If you add the detected
current and voltage signals, you see only a signal from the outgoing wave.

Why is the current out of phase for the reflected wave?
because else it would not be moving backwards.

73, Moritz DL5UH

4232. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: rwc@io.com
Message-ID: <4rjcrh$4lb@nntp-1.io.com>
Source record: 104212
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

No, my comment on the punctuation was merely to make a point.
You made several snide (sp?) remarks to him, one of which was making him look ignorant because of his spelling. I was simply trying to point out that while his spelling was being insulted by you, your punctuation was bad. No, it's no big deal, but I was trying to say was it didn't make sense to insult him for his writing/spelling style when yours had its faults too. None of us is perfect.
As for the antenna, perhaps he's just a buff who likes to receive only, not transmit, and doesn't have a liscence yet. The handbook does say that's perfectly legal. Maybe he wants to see what's "out there" before getting into the hobby?
I myself am in that position. However, I'm quickly learning that HAM operators aren't the type of people I had heard they are. This fool Myron Calhoun took it on himself to write me an ignorant insulting letter, implying that newcomers are welcome but if they have any questions that they are NOT welcome to ask them and that any information they get is to be obtained solely on their own.
He ALSO commenced to make a weak attempt at hurling insults at me for asking such a "stupid" question about antenna/wave length. What the old fool didn't take time to do is see who asked the question. That was not me, yet he is going to write me and slam me for it.
Myron challenged my "maturity..." I have yet to figure out where he comes off with that. Even if I HAD asked the question about the antenna and wave length, how does that make someone immature?

Look... I was told HAM operators welcome new comers with open arms and are always happy to help someone else get started in the hobby. I was looking in to it on my own and discovered that there are many ways to go (2M, 6M, 10M, etc) and wasn't sure which way to go. I haven't asked though, because anytime someone asks a question like that, he receives nothing but rude replies and remarks. I haven't asked PUBLICLY that is... I've had the fortune of finding ONE friendly ham though.
I was also told to start going into the amateur (look up the definition for amateur by the way) newsgroups and that I could start participating and asking questions there to help learn. Boy, were they wrong. New HAM operators, or prospects, are treated rudely and insulted... not what I would call a warm welcome.
My apologies to everyone here. I was foolish in believing such an ignorant thing... Don't bother replying publicly, nor in e-mail.
When I post this, I am going to unsubscribe from the asshole, er, amateur radio newsgroups - email will be erased without being read if it's from the newsgroups... don't bother. And don't bother ME.

Bill Newkirk (wnewkirk@iu.net) wrote:
: In <4rgtmc$hop@nntp-1.io.com>, rwc@io.com (RWC) writes:
: >: but like last night on one of the VHF nets i was on, we had a guy that
: >: was on the air but didn't know what his call was...turned out he'd acquired a
: >: radio from someone else and was told it was a CB radio. we told him what he
: >: really had and what he should do to get legal and then went back to the net.
: >:
: >: it sounds like KC7QZR could use an elmer and additional reference materials.
: >:
: >: Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
: >: Melbourne, FL duty now for the future of amateur radio
: >: Lombardi's 1st Law of Business:
: >: Companies succeed in spite of their best effort. If they succeed at all.
: >:
: > Well, I *was* looking into possibly starting a hobby out of HAM.
: >But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I see that
: >the attitudes and childishness isn't lmited to the people on "CB" Radios.
: >Perhaps HAM isn't for me after all, if Bill is any indication of the
: >types of people that are out there.
:
: you didn't read what i wrote. KC7QZR needs to get in touch with the other locals
: and probably review the materials he used to study for the test. if he had the
: ARRL materials, i believe (relying on memory here) there's even an example
: of what he wanted complete with a list of materials, sources of supply and, yes,
: even an explaination of why those values are the ones to use (at least at an
: entry level explaination...if he wants the engineering version, he can ask for it.)
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: > Oh, and by the way, Bill - while you were busy slamming this
: >other guy for his spelling, I noticed YOU need a few grammar lessons as
: >well, things that were learned in Elementary School.... such as when you
: >end a sentence while quoting, the period goes inside the quotes, not
: >outside. Also you seem to have forgotten to end a sentence or two with a
: >period. Hmm. Seems you aren't the perfect God-almighty after all.
:
: didn't say i was. and welcome to deconstructionist typography. i do have damon
: knight's treatment on grammar from GEnie that is a super reference for only a
: few typewritten pages - at least it addresses the common errors and mis-
: conceptions most people make.
:
: and this is news - not english class. they'd take points off for not capitalizing
: the first word of a sentence. can't say there's a hard and fast rule about trailing
: punctuation inside of quotes these days. depends on the usage to some extent.
: i suppose you think that there should be two spaces after a period. although that's
: something you did with typewriters and not when you have proportional fonts
: available.
:
: > I was told that if a person needed a question answered or some
: >kind of help, that other HAM operators were happy to help out, and that
: >the operators of HAM radios were like a family. But what I've just seen
: >sounds like Channel 19 at a truck stop. No doubt I'll receive a bunch of
: >childish ranting and raving, cussing, etc in my mail box, so until

: >then... Ciao!
:
: oh, come now. the guy claims a ham license. therefore, it's expected that he
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: as how to build a simple 1/4-wave whip for 2m. but even if he hadn't known
: that (as i said, you can pass the test without understanding c=f<lambda>), the
: fact that the lingo is out of whack indicates that our new KC7 needs further
: orientation.
:
: remember the object is not to "pump out the most power" but to communicate.
: and if you actually read up above there, we did tell our bootlegging friend on
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: until then he should just listen and not transmit. in that respect, we were correct
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: license and be legal. for that, we run the risk of a citation ourselves (for
: communicating with an unlicensed station).
:
: i don't think that's a sign of someone not wanting to help. however, things such as
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: ("A -rotor- is the part of a motor that moves. A -rotator- is the device that
: turns the antenna!").
:
: Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
: Melbourne, FL duty now for the future of amateur radio
: Lombardi's 1st Law of Business:
: Companies succeed in spite of their best effort. If they succeed at all.
:

4233. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: cgreenha@magnus.acs.ohio-state.edu
Message-ID: <cgreenha.477.31DD3E23@magnus.acs.ohio-state.edu>
Source record: 104213
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4rjcrh$4lb@nntp-1.io.com> rwc@io.com (RWC) writes:

[snip]

> I myself am in that position. However, I'm quickly learning that
>HAM operators aren't the type of people I had heard they are. This fool
>Myron Calhoun took it on himself to write me an ignorant insulting
>letter, implying that newcomers are welcome but if they have any
>questions that they are NOT welcome to ask them and that any information
>they get is to be obtained solely on their own.

Hi RWC.

I would like to offer an explaination. It seems the internet can bring out the worst in people. Many come here just to flame and attack. I dont know why it is, perhaps its the anonymity of being behind the keyboard, or something else, but I DO know its basically true in most groups...not just ham radio ones.

There are those who do these types of things reguarly, like Burt, Gerry, Drew and others, as nothing more than to cause trouble. While even I have been sucked into petty flame wars, I think its safe to say that most of us do NOT condon, or support the likes of the above mentioned.

What you heard about hams helping others that want to join is true of most of us. All I will ask, is that you dont base your entire opinion about amatuer radio, by what you hear here.

I would also like to offer any insight, help, suggestion, or anything else you may want, regarding amateur radio.

Take care.

ARRL Local Government Liason
Central Ohio Traffic Net Manager
Central Ohio Severe Weather Net Control Station
Capitol City Repeater Asc. Control Op.
Central Ohio Radio Club Control Op.
Central Ohio Packet Asc. Member

> He ALSO commenced to make a weak attempt at hurling insults at
me >for asking such a "stupid" question about antenna/wave length. What the
>old fool didn't take time to do is see who asked the question. That was
>not me, yet he is going to write me and slam me for it.
> Myron challenged my "maturity..." I have yet to figure out where
>he comes off with that. Even if I HAD asked the question about the

>antenna and wave length, how does that make someone immature?
>
> Look... I was told HAM operators welcome new comers with open
>arms and are always happy to help someone else get started in the
>hobby. I was looking in to it on my own and discovered that there are
>many ways to go (2M, 6M, 10M, etc) and wasn't sure which way to go. I
>haven't asked though, because anytime someone asks a question like that,
>he receives nothing but rude replies and remarks. I haven't asked
>PUBLICLY that is... I've had the fortune of finding ONE friendly ham though.
> I was also told to start going into the amateur (look up the
>definition for amateur by the way) newsgroups and that I could start
>participating and asking questions there to help learn. Boy, were they
>wrong. New HAM operators, or prospects, are treated rudely and
>insulted... not what I would call a warm welcome.
> My apologies to everyone here. I was foolish in believing such
>an ignorant thing... Don't bother replying publicly, nor in e-mail.
>When I post this, I am going to unsubscribe from the asshole, er, amateur
>radio newsgroups - email will be erased without being read if it's from
>the newsgroups... don't bother. And don't bother ME.

>Bill Newkirk (wnewkirk@iu.net) wrote:
>: In <4rgtmc$hop@nntp-1.io.com>, rwc@io.com (RWC) writes:
>: >: but like last night on one of the VHF nets i was on, we had a guy that
>: >: was on the air but didn't know what his call was...turned out he'd acquired
>a
>: >: radio from someone else and was told it was a CB radio. we told him what he
>: >: really had and what he should do to get legal and then went back to the
>net.
>: >:
>: >: it sounds like KC7QZR could use an elmer and additional reference
>materials.
>: >:
>: >: Bill Newkirk WB9IVR The Space Coast Amateur Technical
>Group
>: >: Melbourne, FL duty now for the future of amateur
>radio
>: >: Lombardi's 1st Law of Business:
>: >: Companies succeed in spite of their best effort. If they succeed at all.
>: >:
>: > Well, I *was* looking into possibly starting a hobby out of HAM.
>: >But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I see that
>: >the attitudes and childishness isn't lmited to the people on "CB" Radios.
>: >Perhaps HAM isn't for me after all, if Bill is any indication of the
>: >types of people that are out there.
>:
>: you didn't read what i wrote. KC7QZR needs to get in touch with the other
>locals
>: and probably review the materials he used to study for the test. if he had the
>: ARRL materials, i believe (relying on memory here) there's even an example
>: of what he wanted complete with a list of materials, sources of supply and,

>yes,
>: even an explaination of why those values are the ones to use (at least at an
>: entry level explaination...if he wants the engineering version, he can ask for
>it.)
>:
>: > Oh, and by the way, Bill - while you were busy slamming this
>: >other guy for his spelling, I noticed YOU need a few grammar lessons as
>: >well, things that were learned in Elementary School.... such as when you
>: >end a sentence while quoting, the period goes inside the quotes, not
>: >outside. Also you seem to have forgotten to end a sentence or two with a
>: >period. Hmm. Seems you aren't the perfect God-almighty after all.
>:
>: didn't say i was. and welcome to deconstructionist typography. i do have damon
>: knight's treatment on grammar from GEnie that is a super reference for only a
>: few typewritten pages - at least it addresses the common errors and mis-
>: conceptions most people make.
>:
>: and this is news - not english class. they'd take points off for not
>capitalizing
>: the first word of a sentence. can't say there's a hard and fast rule about
>trailing
>: punctuation inside of quotes these days. depends on the usage to some extent.
>: i suppose you think that there should be two spaces after a period. although
>that's
>: something you did with typewriters and not when you have proportional fonts
>: available.
>:
>: > I was told that if a person needed a question answered or some
>: >kind of help, that other HAM operators were happy to help out, and that
>: >the operators of HAM radios were like a family. But what I've just seen
>: >sounds like Channel 19 at a truck stop. No doubt I'll receive a bunch of
>: >childish ranting and raving, cussing, etc in my mail box, so until
>: >then... Ciao!
>:
>: oh, come now. the guy claims a ham license. therefore, it's expected that he
>: knows something about where the information is located about such things
>: as how to build a simple 1/4-wave whip for 2m. but even if he hadn't known
>: that (as i said, you can pass the test without understanding c=f<lambda>), the
>: fact that the lingo is out of whack indicates that our new KC7 needs further
>: orientation.
>:
>: remember the object is not to "pump out the most power" but to communicate.
>: and if you actually read up above there, we did tell our bootlegging friend on
>: wednesday that he should consider getting license and he would be welcome, but
>: until then he should just listen and not transmit. in that respect, we were
>correct
>: in that we advised an illegal station to stop being an illegal station and to
>get the
>: license and be legal. for that, we run the risk of a citation ourselves (for
>: communicating with an unlicensed station).

>:
>: i don't think that's a sign of someone not wanting to help. however, things
>such as
>: some misspellings probably comes from having Dr. Moench at Rose as a mentor
>: ("A -rotor- is the part of a motor that moves. A -rotator- is the device that
>: turns the antenna!").
>:
>: Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
>: Melbourne, FL duty now for the future of amateur radio
>: Lombardi's 1st Law of Business:
>: Companies succeed in spite of their best effort. If they succeed at all.
>:

Christopher K. Greenhalgh, N8WCT
Computer/Electronic Tech. II at The Ohio State University
E-Mail: ckg+@osu.edu (cgreenha@magnus.acs.ohio-state.edu)
AX.25 : n8wct@w8cqk.#cmh.oh.usa.noam

4234. Re: Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <31DD4192.4EAD@arrl.org>
Source record: 104214

Bill Meara N2CQR/HI8 wrote:
>
>
> Why is it that it becomes more difficult to generate RF power as we
> increase frequency? Why do HF transceivers often have more power out on
> 80 meters than they do on 10? Why is it so difficult to get lots of
> power out in the VHF and UHF ranges?

Radio gear is made to work on higher frequencies by making it
smaller. However, there is no easy way to make the parts more
conductive to keep the losses low. Thus, more exotic
techniques are used to get the unwanted heat out.

Trying to use excessively large parts doesn't work--you
end up with power going around in circles just
generating heat. Too much heat and the circuit fails.

You can switch to different technologies to maintain a
large size as you go to higher frequencies.

Zack KH6CP/1

4235. WTBuild!: 6 meter Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.7.5.13.49.34.2443217854.3017997@hcol.humberc.on.ca>
Source record: 104215

> I'd like to build a 6 meter linear amplifier. I'm going to run FM and
> SSB on it, and I'm wondering what is involved in building one. If
> someone could point me in the right direction, i'd really appreciate
> it!!
>
> 73's
> Michael
> N5TGL

How much power out do you need ? If 80 - 100 watts will do
look up the MRF492 in the Motorola RF transistor databook.
This is an 80 watt transistor. 5 to 10 watts in will give full power
out. Very simple to build. I built a few of these.

As for switching the amp in circuit during TX and bypassing it on RX,
I always prefer to use positive keying to key up the amplifier versus
an rf sensing switch. Most rigs have a set of contacts on a rear panel
connector available for this purpose.

I could mail you shematics of a couple of designs using this part.
E-mail me if you'd like more details.

Regards...
Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

4236. Ham Radio Online has moved to www.hamradio-online.com

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4rjq7v$8dq@news.accessone.com>
Source record: 104216
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Ham Radio Online has moved to a new Internet address. You can find our website now at http://www.hamradio-online.com

The new URL address is a lot easier to remember, pronounce, etc, than our old one! Please pay a visit to what may be the world's most used Ham Radio web site.

Ed (KF7VY) and Kim (N7VPL) Mitchell
personal email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

4237. Re: Question on J-pole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: Bill Starkgraf <wps@ElSegundoCA.ncr.com>
Message-ID: <4rjqoj$fb@rap.SanDiegoCA.NCR.COM>
Source record: 104217

The are 2 sent to me by Ed Humphries.

He does ask the following:

Note: I do not claim to have invented this puppy, but
I have an interest in keeping the articles intact as is. They are only
one printed page each, so feel free to distribute; just please do not
delete my name and authorship of the article.

--cut here--

A Copper Tube J-pole
by Ed Humphries - N5RCK
edh@hpuerca.atl.hp.com

The following is a description of a J-Pole antenna made
from copper
pipe. You can use 1/2 inch to 1 inch pipe (wall thickness will
affect stiffness/stability AND price, but not
performance). Larger
diameter pipe increases bandwidth, but 1/2 inch is fine
for amateur
frequencies. Start with a 10 foot (standard) length of pipe, 1 90
degree (right angle) fitting, 1 "tee" fitting, 2 end-caps, 2 hose
clamps (worm-gear adjustable of the appropriate
diameter), and your
coax (end stripped, braid separated, center conducter
stripped, and
coax sealant to close opening in coax to keep water
out). Use a tube
cutter (for best/easiest results) and cut the 10 foot
pipe according
to the dimensions needed following the diagram below:

```
__
| <=endcap
|
|
5/8 | for 146 MHz
|
|
wave |
|
|
|
-- | | <=endcap
| | 1/4
```

```
| | wave
| |
coax ctr conductor=>* *<= coax shield
| |
@ 5"-->| |
tee => --- <= elbow
|
| < "leftover" pipe
|
```

For best general purpose use, the 5/8th wave version should be used. The dimensions to cut are: 66 1/2 inches (5/8 + 1/4 matching section), 19 inches (other half of 1/4 matching section), 3/4 inch (joins the tee and the elbow), and the "leftover" 33 3/4 inchs that forms the base. Use standard plumbing solder methods to join main section to base using the tee. Use the 3/4 inch piece and the elbow to attach the 19 inch piece. Be careful to keep pieces parallel.

This will give you a center frequency of 146 MHz. Attach the coax as shown using the hose clamps. Adjust the swr at 146 MHz by sliding the connections up or down as needed -- you should be able to reach very close to 1:1 (best to do this in approximately where you intend to use the antenna - the base can be attached directly to a mast by two hose clamps). Try not to be standing right by the antenna!

It has been noted that this design can lead to rf coupling onto the feedline. To avoid this, put a ferrite on the coax at the feedpoint, or use 3 turns (@1") of the coax taped together at the feedpoint.

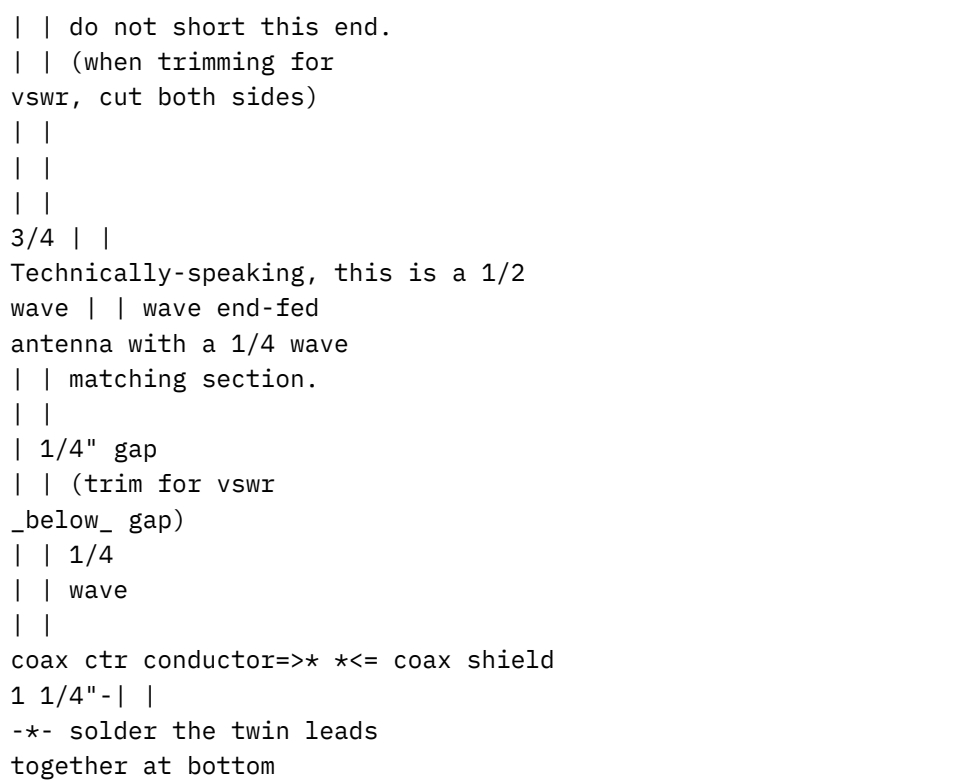
Other center freq dimensions: (adjust 5/8 section accordingly). 144 =19.25 inches, 145 =19.12, 146 =19, 147 =18.86, 148 =18.73.

--cut here--

TV Twin-lead J-pole
By Ed Humphries - N5RCK
edh@hpuerca.atl.hp.com

The following is a description of a J-Pole antenna made from 300 ohm TV twin-lead. They have quite a few advantages which include improved

performance for 2-meter HTs, portability, and low cost.



For a center frequency of 146 MHz:
1. Start with @54" of TV twin lead (flat, NOT foam core)
2. Strip 1/2" of insulation at bottom and solder wires together.
3. Measure 1 1/4" from soldered wires and strip
insulation on both
sides. This is the solder point for a coax feedline.
4. Measure 16 3/4" from coax shield solder point and cut
out 1/4" notch.
5. Measure 50 1/3" from coax center conductor solder
point and trim
off twin lead at that point.
6. Feed with a length of RG58U coax. Tape coax at
feedpoint to the
twin lead for strength and seal coax for weather protection.

It has been noted that this design can lead to rf
coupling onto the
feedline. To avoid, put ferrite beads on the coax at the
feedpoint,
or use 3-5 turns of coax (1"-2") taped together at the feedpoint.

You may attach an alligator clip to the plastic on the top of
the antenna in order to easily hang it. Alternately, punch a
hole near the top and use a length of fishing line to hang.

This design appears on many BBSs, in club newsletters,
and in books;

the earliest reference that I know of is a Jan. 1984
D.A.R.C. antenna
article by James Burks, KA5QYV.

FYI, the 1/4 wave sections for other center frequencies are:
144 MHz =17 inches, 145 =16.88, 146 =16.75, 147 =16.65,
148 =16.54

I usually just go ahead and solder the coax in place and trim down to as close to 1:1 vswr as I can get. I use the MFJ vhf antenna analyzer and a frequency counter then afterwards test with a radio and in-line swr/power meter. When done, the antenna should also present 1:1.2-3 vswr in the center of 444MHz band as well (demonstrated on my dual-band meter and Alinco DJ-580). You will need to trim in a 3:1 ratio to maintain the 3/4 to 1/4 wave.

Bill Starkgraf, KD6UQB
wps@elsegundoca.ncr.com

4238. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <31DD5B5A.2549@crpl.cedar-rapids.lib.ia.us>
Source record: 104218
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Jeff Anderson wrote:
>
> 1. The directional coupler that I wanted to understand was a
> "lumped-element" not "distributed-element" circuit.
>

See also QEX for March and May 1995 for similar analyses of the
two-transformer type of directional coupler.

Bill W0IYH

4239. Re: Mini Ckts MAR-3/6 Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-05 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4rk5vr$jbe@newsfeed.cts.com>
Source record: 104219

Mark Fraser (mfraser@vanbc.wimsey.com) wrote:
: Just want a few items from Mini Circuits Labs - who sells in small
: quantities?

Mini-Circuits (718)934-4500 mainly pushes their ERA line of
Monolithic Amps 0-8 GHz, but you might phone them and see if
they still offer a designer kit for the MAR series. The ERA
series kit K1-ERA contains 10 each of ERA-1 ,2, & 3 for $49.95.

4240. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4rkeb7$21b@sjx-ixn6.ix.netcom.com>
Source record: 104220
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Well, I've had a chance to search my library for a good explanation of how Marcin's directional coupler circuit operates. I found a number of descriptions: some poor, some good, but the best explanation I've found is in the book "Single-Sideband Systems and Circuits," by Sabin and Schoenike (1987, McGraw-Hill), which I will try to summarize here.

"The Inductive Loop Directional Coupler"

First, I will attempt to crudely render their excellent drawings in ASCII format:

```
coax center cond.----------------------------------------

------------------------
| (pickup loop) |
/ |
\ R RF
/ Detector
\ |
| |
coax shield---------.------------------------.--------
```

(You may remark that this looks just like part of an inexpensive SWR meter that is readily purchased at most radio stores.)

Now, this physical circuit, for the purposes of analysis, can be modeled with lumped-elements as:

```
coax center cond.--------.-----------------------------------
|
----- C
----- M
| -------------mmmmm-----------
| |
/ |
\ R RF
/ Detector
\ |
| |
coax shield-----------.------------------------------.-----
```

Where, in this circuit:

C = The capacitance between the pickup loop
and the coax center conductor

M = The mutual inductance between the pickup loop
and the center conductor

(Note that for this lumped-element circuit model to hold true, the
dimensions of the coupling loop must be a fraction of a wavelength).

Now, to start the analysis I'm going to define some quantities:

E = the voltage between the coax center conductor
and the coax shield at the point of measurement.
I = the RF current in the transmission line
Vres = the voltage across the resistor R.
Vind = the voltage across the mutual inductance M
Vmeas = the voltage at the RF Detector
Xc = impedance of capacitor C
Xm = impedance of mutual inductance M

From the circuit and the quantities defined above, I know that:

Vres = (R * E)/Xc for R << Xc
(it's a simple voltage divider)

Vind = I * Xm (polarity of Vind depends on
direction of current flow)

Vmeas = Vres + Vind

= R * E / Xc + I * Xm (if current moving left to
right), or,
= R * E / Xc - I * Xm (if current moving right to
left)

Therefore, the voltage at the detector is the sum (or difference,
depending on the direction of the directional coupler with respect to the
load, and hence current flow) of a sample of the voltage across the
transmission line and a sample of the current through the transmission line at
the *point* of measurement.

I want to stress that word "point." The pickup-loop is very short,
just a fraction of a wavelength long. Thus we are making a measurement
of current and voltage at a "point" in a circuit, stuff of classical
"lumped-element" circuit analysis. Perhaps someone has attached a
transmission line connected to the coupler's output, or perhaps simply a
resistor with inch-long leads. I don't know, and the circuit doesn't
care - it's just sampling voltage and current at this one "point." And
somehow we must take this voltage sample and this current sample and
derive measurements of forward and reflected waves.

First though, it's important to note that, in this model, the
resistor is *not* an "absorbtion" resistor - that is, it is *not*
absorbing either an unwanted forward or reflected wave component in
order that the other (not absorbed) component can be measured (as at
least one book-published explanation would have us believe). Instead, it
is part of a voltage divider which samples the voltage across the

transmission line.

The model of an "absorbtion" resistor is, I believe, in this circuit topology the wrong model to use. When I first ran across it some years ago ("HF Antennas for All Locations," by Moxon) it confused the heck out of me, and it wasn't until I sat down and actually analyzed a directional coupler circuit that I found a model which would work in both "lumped-element" and transmission line applications. The "absorbtion" resistor explanation just does not make sense if you consider the loop to be a lumped-element.

I think part of the confusion is due the construction of the pickup loop itself, which is rather long and its function on first blush mysterious. Because of this length and the lone resistor at its end, I believe there is a natural tendency to accept the absorbtion resistor model. After all, it seems to explain that inexplicably long loop! But remember, at the frequencies where one commonly uses these couplers, the pickup loop length is a *very* small fraction of the wavelength; it's so short that it can be modeled as lumped-element(s), which in this case is an inductor (and capacitor). We could just as easily replace this pickup loop with a toroidal coil and a real capacitor, and we would obtain the same results.

But I digress. Back to the analysis!

Let's imagine that our application calls for a transmission line to be connected to the output port. Is there a way that we can chose the values of R, C, and M such that the voltage at the RF detector is related to either the transmission line's forward voltage or it's reflected voltage, depending on the directional coupler's orientation?

Yes there is! But first, let's write a couple of more equations, this time from transmission line theory:

E = Ef + Er, where:
E = the voltage between the coax center conductor
and the coax shield at the point of measurement.
Ef = forward voltage component of E.
Er = reverse voltage component of E.

I = If - Ir (subtract because the reflected current travels
in the opposite direction).
I = the RF current in the transmission line.
If = the foward current component of I.
Ir = the reverse current component of I.

And, because If = Ef / Zo and Ir = Er / Zo by definition (Zo is the characteristic impedance of the transmission line at the point of measurement), by simple substitution we get:

I = Ef / Zo - Er / Zo

Now let's substitute these three equations into the two earlier equations and re-derive the value of Vmeas.

1. Vmeas = (R / Xc) * (Ef + Er) + (Xm / Zo) * (Ef - Er)
(forward direction)

2. Vmeas = (R / Xc) * (Ef + Er) - (Xm / Zo) * (Ef - Er)
(reverse direction)

To make these two equations relate to either the forward voltage or the reverse voltage independent of the other, we are going to define the values of R, C, and M such that the following relationship is true:

R / Xc = Xm / Zo (in other words, R * C = M / Zo)

Let's plug this into the above equations. These equations now reduce to:

1. Vmeas = 2 * R / Xc * Ef (forward direction)

2. Vmeas = 2 * R / Xc * Er (reverse direction)

We now have seperate measurements for both the forward and reverse direction components of a signal on a transmission line! (Note too that the value of these voltages will change with frequency due to Xc).

That's it. Hopefully, I neither made too many mistakes in my derivations above nor confused the reader too much. Directional couplers are an interesting topic, and if you understand the theory behind the one I've just described, analyzing other directional coupler topologies will be amazingly straightforward (hint: usually they replace the pickup loop with a real toroidal coil and capacitor, or a similar voltage and current sampling topology).

Cheers,

- Jeff, WA6AHL

4241. Re: Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4rkmm6$dq7@crash.microserve.net>
Source record: 104221

In article <4rg6p0$hbd@server2.codetel.net.do>, w.meara@codetel.net.do
says...
>
>Here's a question that has been bothering me for a long time:
>
>Why is it that it becomes more difficult to generate RF power as we
>increase frequency? Why do HF transceivers often have more power out
on
>80 meters than they do on 10? Why is it so difficult to get lots of
>power out in the VHF and UHF ranges?
>
>TIA 73 Bill N2CQR/HI8
>
>
One of the main reasons is that even a small capacitance looks like a
short circuit at uhf. If we try to use this capacitance as resonant
tuning it can help, but only to a small extent. The next reason is
electron transit time in the amplifier element (tube-transistor), it
becomes difficult to control electron flow so we then resort to
something like a klystron. How much power do you want? Even old
technology can make megawatts in the gigahertz range!

4242. How to make a 6-Meter J-pole?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: Robert Anderson <robert..anderson@worldnet.att.net>
Message-ID: <31DE02B2.4C29@worldnet.att.net>
Source record: 104222

I have seen and have made 2 meter j-pole's but have not seen any thing
on 6 meter j-pole's . Would they be any good for repeater's antenna's ?
I ask becaues I have a repeater on 53.090 here in Oklahoma City and
useing a pair of AR-6's and they don't seen to work to good .

My E-Mail address is { robert..anderson@worldnet.att.net }
My call KC5LXT

4243. Ham Page needs hits, Contest,DX and more

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: wa4pgm@moonstar.com
Message-ID: <NEWTNews.836663107.1436.wa4pgm@wa4pgm.moonstar.com>
Source record: 104223
Cross-posted to: rec.radio.amateur.packet,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.equipment,rec.radio.amateur.dx,rec.radio.amateur.digital.misc,rec.radio.amateur.antenna,rec.ham-radio.swap,rec.ham-radio.packet

Hello all and I would like to welcome all to my pages.
http://www.moonstar.com/~wa4pgm/

I have many different subjects and hope you will find something
useful. Things will be changing in the future, hopefully for
the better. I have more time now to work on my page. Just
trying to think of something unique.

Thanks all who have took a visit and also for your comments.
73 Kyle

http://www.moonstar.com/~wa4pgm/

4244. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: mac@cis.ksu.edu
Message-ID: <mac.836665910@depot.cis.ksu.edu.cis.ksu.edu>
Source record: 104224
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

rwc@io.com (RWC) writes:
>....
>Myron Calhoun took it on himself to write me an ignorant insulting
>letter, implying that newcomers are welcome but if they have any
>questions that they are NOT welcome to ask them and that any information
>they get is to be obtained solely on their own.
>....

Not quite what my "cc" recorded,
but I'm not particularly surprised at the mis-representation.

--Myron.
--
Five boxes preserve our freedoms: soap, ballot, witness, jury, and cartridge
PhD EE; Assoc. Prof.; W0PBV (913) 532-6350 work 532-7353 fax 539-4448 home
NRA Life Member and Certified Instructor (Home Firearm Safety, Rifle, Pistol)

4245. Circa 1935 Class B Amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: optics3d@ix.netcom.com
Message-ID: <4rmdbu$ke2@dfw-ixnews6.ix.netcom.com>
Source record: 104225

Inherited a homebrew Class B amp from one of our original US hams - 1ABY, later designated W1ABY, who became a silent key maybe 15 years or so.

The rig is in tough shape - definitely needs rewiring, retubing and new knobs. All of the coils are in good shape as are the other basic components. Rig weighs about 100 lbs and is in a rack 5 feet high. I have little (read that zero) interest in AM so I'd like to unload this small piece of history. In working shape the rig output much better than 2000 watts....

Anyone interested please e-mail or call (508) 867-6433 and leave a message on my office answering machine. Naturally, your picking up the rig in Central Massachusetts will be condition of sale or trade.

Regarding the latter, I'll take $7,500,000 cash or trade for antennas, QRP rig, keyer or other junk in the $50 to $100 range. Don't think the rig is really worth $7.5 Million, but for the right buyer....

73 de

WA1UWZ
Ron Lucier

4246. Tubes: Where To Buy ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: rhiii@pop.erols.com
Message-ID: <09960606153631.OUI91.rhiii@pop.erols.com>
Source record: 104226

Hello:

Have on old Amp Supply LA-1000 amplifier that needs new tubes.

Tube(s, 4 of them) are marked 6MJ6/6LQ6/6JE6C. Can anyone suggest
a place to purchase new ones at good prices ?

Thanks,

-- Richard/ NT2Z

--
Richard Harrison rhiii@pop.erols.com
07/06/96 16:29

Using: OUI TE 1.5 from http://www.dvorak.com

4247. Re: BEER & WINE SHIRTS <> LIQUID POUCH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: sholmes@cais.com
Message-ID: <sholmes-0607961649000001@192.0.2.1>
Source record: 104227

In article <31dc3327.15958202@news.local.net>, Natural-by-light@pobox.com (Vince) wrote:

[...]
> See the shirts with the patented LIQUID POUCH!!
[...]

Great for the water-cooled finals in your (homebrew) 2Kw HT!

--
Stephen R. Holmes | sholmes@cais.com | the usual disclaimers
Clifton, VA USA | | ...witty saying TBD

4248. Electronic Engine Control Noise: Mobile Operation

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-06 00:00:00 UTC
From: Keith Nelson <knelson@aimnet.com>
Message-ID: <31DEA495.39F3@aimnet.com>
Source record: 104228

I am W6KLK. I am using my Yaesu FT-890 in my 1992 Toyota PU V-6 for mobile operation. The noise from the electronic engine control (located on the passenger side panel) is severe and making reception impossible. I am an electrical engineer and I have done mobile noise supression in the past (1950ties) but I am stumped on this one. It appears to be radiated interference, not conducted, but I may be mistaken.

I would appreciate suggestions on how to solve the problem.

Please respond by email. Thanks!

Keith W6KLK <knelson@aimnet.com>

4249. FM Tx Circuits ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-07 00:00:00 UTC
From: Glenville Sawyer <gsawyer@dove.mtx.net.au>
Message-ID: <31DF7381.6B63@dove.mtx.net.au>
Source record: 104229

Hi there I hold an Amateur radio licence (vk5zcf - for the last 25 years), and also a low power regional broadcasting licence (this is mainly to provide "tourist type" information around my local area.

My licence permits "flea power" operation in the FM B'cast band, I am at present using a "modified" ex commercial two-way unit (PLL locked to xtal at frequency / 8 10.?? = 87.60

This tranmitter although in service for nearly 2 years is now in need of retirement (heck I will put it down on 6 metres when it goes out of "active service".

But I need to replace it FAST !!!!!!

I am looking for circuits and knowledge covering the following areas ...

Free-running oscillator circuits that are stable ! - does such a beast exist when running at 88 Mhz ??

or ... Xtal locked circuits that can allow a rock (10.?? Mhz) to be pulled far enough to permit standard deviation output at the final freq (87.6) this is about 18Khz at the rocks natural resonance.

Who can offer me some ideas, alternatively an EASY to get going PLL design that has sufficient loop Time Constant factors to allow the deviation that I need ?
(most PLL's will go GaGa when you try to drag them away from lock by this much deviation swing).

So you can see that I have a genuine dilemma here, if I can find suitably STABLE free-running designs then I am not adverse to using them either.

What can YOU offer to solve this problem ?

I really do look forward to hearing from YOU.

Best regards es 73

Glenville T. Sawyer

gsawyer@dove.mtx.net.au

P.s off-line for the next 3-4 days - " I'll be Back " !!

4250. Re: Homebrew FSK modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-07 00:00:00 UTC
From: ka0yos@arn.net
Message-ID: <4rn862$3a4@services.arn.net>
Source record: 104230
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <ken.thompson.1327.00088A94@Symbios.COM>,
ken.thompson@Symbios.COM says...
>
>In article <31D8D2A8.D6B@qtm.net> Kevin Pounders <pounders@qtm.net>
writes:
>>From: Kevin Pounders <pounders@qtm.net>
>>Subject: Homebrew FSK modem
>>Date: Tue, 02 Jul 1996 00:41:28 -0700
>
>>I am trying to build an FSK modem for use on 2M packet, but the plans
I
>>have calls for a TI TCM3105 FSK modem chip.
>
>>I have contacted all of the component suppliers that I know but am
unable
>>to locate this chip (is now obsoulite).
>
>
>It is not obsolete. But I think TI is only making them in surface
mount
>packages now.

Try http://www.jdr.com

4251. Re: BEER & WINE SHIRTS <> LIQUID POUCH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-07 00:00:00 UTC
From: lrware@aol.com
Message-ID: <4rndtl$dm1@newsbf02.news.aol.com>
Source record: 104231

Here's a guy who never read any of the messages in this group.
Wonder if I could get one with room for my transformer oil?
Or maybe take up liquid cooled radios?

#
-Larry Ware, lrware@aol.com
collector of Vintage Electronic Test Equipment
(Tek, HP, the good stuff!)
Communications Receivers, old Electronics Books & Manuals
and Phone-Cards.
What have you got?
#

4252. Radio/Computer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-07 00:00:00 UTC
From: cjag@camtech.net.au
Message-ID: <4rnfmgkkh2@adelaide.DIALix.oz.au>
Source record: 104232

Hi there,

I've got a bc200xlt scanner, and a few other bits of radio gear (still waiting to get my licence :)) I've got some paket/rtty/morse decoding s/w on the computer but i've got a huge problem getting the audio in... the obvoius compter noise is killing the audio, so here's my question... how can I stop the noise ?? :)) I'm not sure where its getting in, could be the antenna (its right next to the audio out) or most probably coming outta the computer and into the scanner throught the audio cord... is it possible to sheild the wire and and a coupiling capacitor ?? something like that?? am i on the right track ??

If ya have any info, or any web site with diagrams/plans for this sorta thing please mail me :))

Thanks in advance...

kibbet
cjag@camtech.net.au

4253. CW Rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-07 00:00:00 UTC
From: tony@wilkes.ak.planet.co.nz
Message-ID: <465@wilkes.ak.planet.co.nz>
Source record: 104233

Forgive me if this an often asked question in this group but I'm a bit out of touch with present day availability.

Can you recomend an easy to get going kit for a CW TX/RX about 5W for 80 (and 20 if possible).12v dc supply. Eyesight not what it was and steady hand has deserted so the pcb for the kit must not be too twee.

Thanks for reading
Even more thanks for answering ;-))

73 Tony

Tony Wilkes --- Whangaparaoa, North Island, New Zealand
Ham Radio ZL3SLH & G3SLH - Royal Forest & Bird - Croquet

4254. Stuff for sale or trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-07 00:00:00 UTC
From: cw thomas <cwthomas@pop.erols.com>
Message-ID: <31DFDE9E.1B53@pop.erols.com>
Source record: 104234

HI;

Thanks for reading this.
I have the following stuff for sale or trade. If it says it works,
it works and I'll replace or refund your money at my option should you
have any problems with it. However, please don't buy something and
then decide you don't need or want it and expect me to take it
back. Also If something says 'cond unknown' that means I don't
know if it works or not. and I won't guarantee it. Its as is.
If the price says quan for x dollars that means I will not sell them
in single quantities. (I'm lazy).
Alot of these boards are pulls from a big computer place out here
that went belly up. From the stuff I've pulled out and tested,
it appears that they went out of business because they were
throwing away good cards.

Micronics 486 system board Eisa 3 system board 8 slot,accepts
80486sx,dx,dx2 comes with Cache srams, DOcs and CPU
Condition Unknown.....35.00

80486 sys board 8 slot comes w/cache srams,No docs/CPU Cond. Unk..20.00

486 SYS board no docs jumpers function marked on board to set CPU
speed etc. Comes w/ Cache sram, And docs No CPU..Cond. Unk...35.00

486 sys board No docs, No cache has PCI slots, No cache srams
No CPU.Cond. Unk.....25.00

80386-33 Mhz mother board works with docs..... 35.00

80386-40 Mhz nother board works with Docs..... 40.00

1.44 Floppy w/ PCMCIA slot And adapter card no cables.cond unk..20.00

1.2 Meg Floppy Works..... 15.00

1.44 Meg Floppy Works.....15.00

Toshiba P321sl printer W/ DOCs. works.....40.00

HP laserjet Network Card Cond. Unk. 15.00

8- 1 meg 32pin simms 70ns speed works..... 40.00/four

PCMCIA Network Card comes w/ docs, 1.44 meg disk w/ software
and adapter cable Cond. Unk.....25.00

relisys VGA monitor I don't think this is SVGA but it works.. 75.00

1X CD ROM drive Works, with cable and controller 20.00

Hayes external 2400 baud modem..works.....15.00

Assorted PCI bus VGA cards all work some are diamond
stealth cards all have at least 1 Meg of Memory.....25.00 Ea.

Assorted Network cards includes 3com, intel some are specify
PCI or EISA bus Cond. Unk.....4/20.00

Assorted SCSI Cards No docs No cables. Cond. Unk.....3/20.00

Assorted IDE/Floppy/COM1,Com2/Paralell.Cond. Unk.....4/15.00

assorted Sound cards incl Soundblaster 16 and others. NO docs.
Cond. Unk.....2/30.00

Modem Cards all are at least 2400 Baud some are 14.411 and higher
No docs But most have rockwell chips so they should be
Hayes command set..Cond. Unk.....3/25.00

Thanks;

C.W. Thomas

4255. RF & materials

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-07 00:00:00 UTC
From: a8009318@mcmaster.ca
Message-ID: <a8009318.4.00161073@mcmaster.ca>
Source record: 104235
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Wonder if any of you have conducted experiments, or
have come across papers on the interaction of EM waves
at and near 1.2, 2.4, or 5.7 GHz, with materials?

I am particularly interested in the following materials:
plywood, wafer board and particle board of various
thicknesses, and; asphalt shingles. I am interested
in these materials with varying moisture content,
and if anyone has studied particular adhesives used
in these products.

I am interested in the effects of these materials when
located within the radiating near field of an array.

Any pointers would be appreciated.

Mike

4256. Re: Radio/Computer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-07 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <31E06943.7555@staffnet.com>
Source record: 104236

Christine Jaeger wrote:
>
> Hi there,
>
> I've got a bc200xlt scanner, and a few other bits of radio gear (still waiting
> to get my licence :)) I've got some paket/rtty/morse decoding s/w on the
> computer but i've got a huge problem getting the audio in... the obvoius
> compter noise is killing the audio, so here's my question... how can I stop
> the noise ?? :)) I'm not sure where its getting in, could be the antenna
> (its right next to the audio out) or most probably coming outta the computer
> and into the scanner throught the audio cord... is it possible to sheild the
> wire and and a coupiling capacitor ?? something like that?? am i on the right
> track ??
>
> If ya have any info, or any web site with diagrams/plans for this sorta thing
> please mail me :))
>
> Thanks in advance...
>
> kibbet
> cjag@camtech.net.au

Try Radio Shack "split" ferrite beads on the cables (keyboard and
monitor expecially) comming out of the computer.

4257. Re: WTBuild!: 6 meter Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: Jay123a <jay123a@gargamel.ptw.com>
Message-ID: <31e063bf.0@mothra.westworld.com>
Source record: 104237

"Michael W. Smith II" <michaels@computize.com> wrote:
>I'd like to build a 6 meter linear amplifier. I'm going to run FM and
>SSB on it, and I'm wondering what is involved in building one. If
>someone could point me in the right direction, i'd really appreciate
>it!!
>
>73's
>Michael
>N5TGL

Hello Michael:

How about a linear amplifier that uses a 4CX250R or a couple of them for a six meter amplifier. Get a hold of Varian, Eimac Division 301 Industrial Way San Carlos CA 94070, or phone Linda DeLoring at 800-414-8823 #1 for product information. She can send you technical data on their tubes. Ask for "The Care and Feeding of Power Grid Tubes" book. Also see the ARRL Handbook on the construction of VHF linear amplifiers. Another good source of bouncing off your ideas is RF Parts Co. 435 South Pacific St San Marcos CA 92069 or phone 619-744-0750 for technical help, and 800-737-2728 order line, ask for their free catalog.

Ive seen 6 meter amps at the TRW swap meet in So CA, their fare and few between, but you find them now and again.

Good luck.

Jay.

4258. razor blade radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: jeffw@shadow.net
Message-ID: <4rps4s$82r@viper.shadow.net>
Source record: 104238

Hello all. Anyone every heard about making an a.m. reciever using just a razor blade, nails, wire and a battery. If you had please let me know at my personal e-mail address, thanks in advance.

Jeffrey Weil
jeffw@shadow.net

4259. Re: Motorola Visar RIB sw needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: eplatt@earthlink.net
Message-ID: <31e09381.7450572@news.earthlink.net>
Source record: 104239
Cross-posted to: rec.radio.swap,rec.radio.noncomm,rec.radio.cb,rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.amateur.space

But where is .HR?? They may not have the same laws we do.

Radioactive Communications <radio3@village.ios.com> wrote:

>Nino Cvetkovic wrote:
>>
>> I can offer RIB software for almost every other Motorola in exchange.
>>
>> Nino
>Nino I'm sure that the Motorola people over in Plantation Florida are
>thrilled to know that you are offering illegally pirated copies of their
>RSS over the net!!! Really smart!!!

4260. Re: J-pole

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: jcyun@chip.kohap.co.kr
Message-ID: <4rq9to$5d@chip.kohap.co.kr>
Source record: 104240

Access to http://www.kohap.co.kr/~jcyun/jpole.html
It provide some information about designing J-pole antenna .
Have a fun !

Yun hl2acs

In article <31DE02B2.4C29@worldnet.att.net>, robert..anderson@worldnet.att.net
says...
>
>I have seen and have made 2 meter j-pole's but have not seen any thing
>on 6 meter j-pole's . Would they be any good for repeater's antenna's ?
>I ask becaues I have a repeater on 53.090 here in Oklahoma City and
>useing a pair of AR-6's and they don't seen to work to good .
>
>My E-Mail address is { robert..anderson@worldnet.att.net }
>My call KC5LXT

4261. Re: RF & materials

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4rqdmo$52k@info4.rus.uni-stuttgart.de>
Source record: 104241
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

>I am particularly interested in the following materials:
>plywood, wafer board and particle board of various
>thicknesses, and; asphalt shingles. I am interested
>in these materials with varying moisture content,

Various materials have been tested by putting them
in a microwave oven, e.g. PVC. You can be sure that the
material you mention are very lossy when wet.

>I am interested in the effects of these materials when
>located within the radiating near field of an array.

Why? you should not have any materials in the near field,
i.e. a few wavelength around your antenna. This is however
not too difficult at SHF.

73, Moritz DL5UH

4262. Re: Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <eN5EKAAiLM4xEweQ@briano.demon.co.uk>
Source record: 104242

In article <4rkmm6$dq7@crash.microserve.net>, gudmundur
<dcowey@cyberia.com> writes
>In article <4rg6p0$hbd@server2.codetel.net.do>, w.meara@codetel.net.do
>says...
>>
>>Here's a question that has been bothering me for a long time:
>>
>>Why is it that it becomes more difficult to generate RF power as we
>>increase frequency? Why do HF transceivers often have more power out
>on
>>80 meters than they do on 10? Why is it so difficult to get lots of
>>power out in the VHF and UHF ranges?
>>
>>TIA 73 Bill N2CQR/HI8
>>
>>
>One of the main reasons is that even a small capacitance looks like a
>short circuit at uhf. If we try to use this capacitance as resonant
>tuning it can help, but only to a small extent. The next reason is
>electron transit time in the amplifier element (tube-transistor), it
>becomes difficult to control electron flow so we then resort to
>something like a klystron. How much power do you want? Even old
>technology can make megawatts in the gigahertz range!
>

-hello
i have read the one reply to this question and see that he left out
the inductance of everything and in my expierience of home brew in uhf
this was the key overiding factor the valves have very long leads in
comparison to transistors so that you cannot get the rf out of the device
used and the second factor which is influenced by the foregoing is the
characteristic frequency roll off in the amplification factor most hf rigs
use either modified audio valves or tv scan valves and so as frequency
increases gain does the inverse, a true rf valve has almost no leads
or co-axial type connector assemblies have look at 4cx250 construction
or 2c39 the electrodes come right through the glass
if you want to make lots of power at uhf then the whole assembly tecniques
have to be co-axial which must be carefully matched to the device, standing
waves are fatal in amplifier construction and they occur in input as well
as output sections-
Brian Olliver G8DQQ

4263. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <09YOWEAlgM4xEw5y@briano.demon.co.uk>
Source record: 104243
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4rj9f9$q7g@dfw-ixnews3.ix.netcom.com>, jeffa@ix.netcom.com
writes
>
> Sometime ago I had the same problem as Marcin - I wanted to
>understand how an SWR bridge's directional coupler worked, and the only
>explanations that I could find described its operation in terms of the
>forward and reflected waves. I had two problems with these
>explanations:
>
>ff, WA6AHL

-hello
you are not as it were at the sea shore but at a point some distance off
toward the land the sea is giving up it's energy to a rock , the rock can't
absorb all the energy as it's consistency is miss matched so it reflects
energy back into the sea and there is a back flow of current which causes
a flow against the tide, waves are produced (and make life uncumfortable for
small boats parked at such an observation point)
your observation will note the massive inflow and the reflected wave at
anti-nodal points, there will be a big positive wave with a small negative
wave supperimposed by attenuating the positive displacement produced the
reflected wave can be measured as a ratio of the larger (hopefully if it is a
near match situation)
G8DQQ-
Brian Olliver

4264. Re: razor blade radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: Bob Winingham <kc5ejk@onramp.net>
Message-ID: <4rqj71$27n@news.onramp.net>
Source record: 104244

might want to add high Z ear/head phone to that list.
The rust spots on the razor blade acts as a diode.

4265. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul8.081055.280@ke4zv.atl.ga.us>
Source record: 104245
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <31db143a.4297332@news.netins.net> TKC@NCN.NET writes:
>On Mon, 1 Jul 1996 16:05:14 GMT, gary@ke4zv.atl.ga.us (Gary Coffman) wrote:
>"In article <61e7cc$173112.3a2@MYCROFT> KC7QZR@olywa.net writes:
>">Howdy..
>">I have a few Questions...
>">I need info on building a Mobil Mag mount antenna for my Truck to use
>">with my HTX-202..
>">
>">I have been given some advice, but i am looking to build something
>">cheap but looks NORMAL, someone told me to use a coat hanger, etc ..
>">
>">I have 12 guage wire i can use, but need a little info, what length
>">should i cut it at, to use it at 145.470 (local Repeater) I dont
>">have any kind of swr meter or anything but my radio which will let me
>">know when its pumping out full power...
>"
>"You can make a whip from just a 19 inch length of wire and a coax
>"connector, IE take a PL-259,
>
> Just a second...
>When we took the Ham test didn't we have to show that we could figure
>frequency to wave length?
>I don't want to flame anyone but it was a basic fact of radio,, I thought.
> Dean WB0TKC

It is one of the questions in the pool, but it isn't necessarily on
every test. However, it is naive to use that formula for a real antenna.
You almost always have to adjust the length in order to account for other
variables. The formula gives a *free space* value, but our antennas are
rarely mounted in free space. There are also mechanical factors to consider.

It is not unreasonable for a new amateur to ask this sort of question.
Often those things which appear simplest to those of us with practical
experience can be the most baffling to those with none. Remember, the
only stupid question is the one you neglected to ask.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4266. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4rr0us$m2v@dfw-ixnews2.ix.netcom.com>
Source record: 104246
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <09YOWEAlgM4xEw5y@briano.demon.co.uk> Brian Olliver
<briano@briano.demon.co.uk> writes:

>you are not as it were at the sea shore but at a point some distance
off
> toward the land the sea is giving up it's energy to a rock , the rock
can't
>absorb all the energy as it's consistency is miss matched so it
reflects
>energy back into the sea and there is a back flow of current which
causes
>a flow against the tide, waves are produced (and make life
uncumfortable for
>small boats parked at such an observation point)
>your observation will note the massive inflow and the reflected wave
at
>anti-nodal points, there will be a big positive wave with a small
negative
>wave supperimposed by attenuating the positive displacement produced
the
>reflected wave can be measured as a ratio of the larger (hopefully if
it is a
>near match situation)
>G8DQQ-
>Brian Olliver

Brian,

Thanks for the analogy, I like it better than mine - a beach is a lousy place to view wave reflections. A rocky cove is much better.

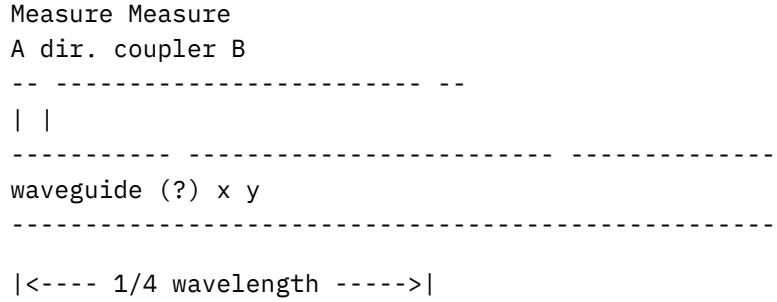
My argument is, if you look at just one point in the water, you won't see two different waves passing in two directions (the forward and reflected waves). Instead, you'd see the water moving up and down as the waves passed, with the height of this movement determined by the constructive/destructive interference of the two waves passing each other. But you could not seperate out the two waves as being two distinct, seperate entities - all you see is the resulting sum of their interaction.

I chose to observe a "point" in the water to illustrate the operation of a lumped-element directional coupler. It "observes" the current and voltage at one point of a transmission line. These two quantities are then used to calculate forward and reverse voltages (a good explanation of how this works appears in an old article by Bruene in the April, '59

issue of QST).

Of course, there's no reason to measure at just one point. Way way back during my University days I was taught that you find SWR by measuring the voltage along a transmission line: find the max, move 1/4 wavelength and find the min, and calculate SWR. I remember being puzzled because I knew that my SWR meter in my shack was not 1/4 wavelength long, and wondering how the heck it did this! It wasn't until recently that I finally understood it (at least, I think I do).

And to digress slightly, I once ran across an example of a directional coupler that truly did find forward and reflected parameters by using constructive/destructive wave interference. If I recall correctly, it was 1/4 wavelength long and looked something like this:



(I think this was done with a waveguide, but I can't remember.)

It worked as follows:

A wave traveling from left to right enters the coupler's port x and travels towards port y. Meanwhile, it is still traveling down the waveguide towards port y. When the waveguide's wave reaches y, it enters this port and, because both it and the wave within the directional coupler are in phase, they add and appear at port B.

However, the wave that entered port y also travels back down the directional coupler towards x. When it reaches x, it has traveled 1/2 wavelength (1/4 from x to y, and 1/4 back again), and so is 180 degrees out of phase with the wave coming in through port x. These two waves cancel, and nothing appears at A.

For a wave traveling in the opposite direction, the reverse happens, and it appears at port A, but not B.

Pretty cool, but frequency dependent.

(Anyone, please correct me if I'm wrong).

- Jeff, WA6AHL

4267. Standard HX240U(AB) Programming info needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: larryr@inforamp.net
Message-ID: <larryr-0807961045160001@ts22-16.tor.istar.ca>
Source record: 104247
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.homebrew,rec.radio.swap

I have just acquired a couple of Standard Radio UHF handhelds
Model HX240U(AB) at a local hamfest. They display the letters CL
when turned-on. These are commercial HT's. No keypad, just 4 buttons
across the top of the front plus light and monitor buttons.

Any help with information (programming/manuals/etc) on these units
would be greatly appreciated.

Thanks,
Larry Rothman VE3LRI
Toronto, Canada

4268. Glue for base of tubes..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: jstroppe@uhl.uiowa.edu
Message-ID: <4rr9rd$vjg@flood.weeg.uiowa.edu>
Source record: 104248

What do you guys use to glue the loose base of vacuum tubes back to the glass envelopes. Is epoxy glue alright?

John WA0VYZ

--
John Stroppel | Internet: jstroppe@uhl.uiowa.edu
The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
Iowa City, IA 52242 | Fax: (319) 335-4555

4269. Re: razor blade radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: n4lq@iglou.com
Message-ID: <Du8DwB.9B4@iglou.com>
Source record: 104249

This was known as the "Foxhole Radio" back in the 50's. Do a webb search
and see what comes up. I remember seeing some threads on this lately.

Bob Winingham (kc5ejk@onramp.net) wrote:
: might want to add high Z ear/head phone to that list.
: The rust spots on the razor blade acts as a diode.

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

4270. Police Car Alarm

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: Xiaohui Wang <xhwang>
Message-ID: <4rrajr$kn6@bilbo.ceas.rochester.edu>
Source record: 104250
Cross-posted to: misc.industry.electronics.marketplace,rec.radio.amateur.homebrew

A friend of mine wants to repaired the control box of the police car alarm.
The manufacture is Pioneer Technology, the model of this box is PA-800.
The micro-CPU chip inside the box is 8751, which has built in EPROM.
Does anybody know anything about this manufacture Pioneer Technology ?

Thank you very much in advance.

Ed,
wang@einstein.rad.rochester.edu

4271. Re: RF & materials

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: jay@west.net
Message-ID: <4rrea8$h2f@acme.sb.west.net>
Source record: 104251
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

moritz@ipers1.e-technik.uni-stuttgart.de wrote:
: >I am particularly interested in the following materials:
: >plywood, wafer board and particle board of various
: >thicknesses, and; asphalt shingles. I am interested
: >in these materials with varying moisture content,
:
: Various materials have been tested by putting them
: in a microwave oven, e.g. PVC. You can be sure that the
: material you mention are very lossy when wet.
:
: >I am interested in the effects of these materials when
: >located within the radiating near field of an array.
:
: Why? you should not have any materials in the near field,
: i.e. a few wavelength around your antenna. This is however
: not too difficult at SHF.

Sounds to me like he's exploring the idea of an attic antenna. :)
--

WestNet: Internet service to Santa Barbara, Ventura and the world.
805-892-2133 805-289-1000 805-578-2121

4272. Re: razor blade radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: cbj1@rsvl.unisys.com
Message-ID: <cbj1.20.00F38537@rsvl.unisys.com>
Source record: 104252

In article <4rps4s$82r@viper.shadow.net> jeffw@shadow.net (Jeffw) writes:
>From: jeffw@shadow.net (Jeffw)
>Subject: razor blade radio
>Date: 8 Jul 1996 02:35:08 GMT

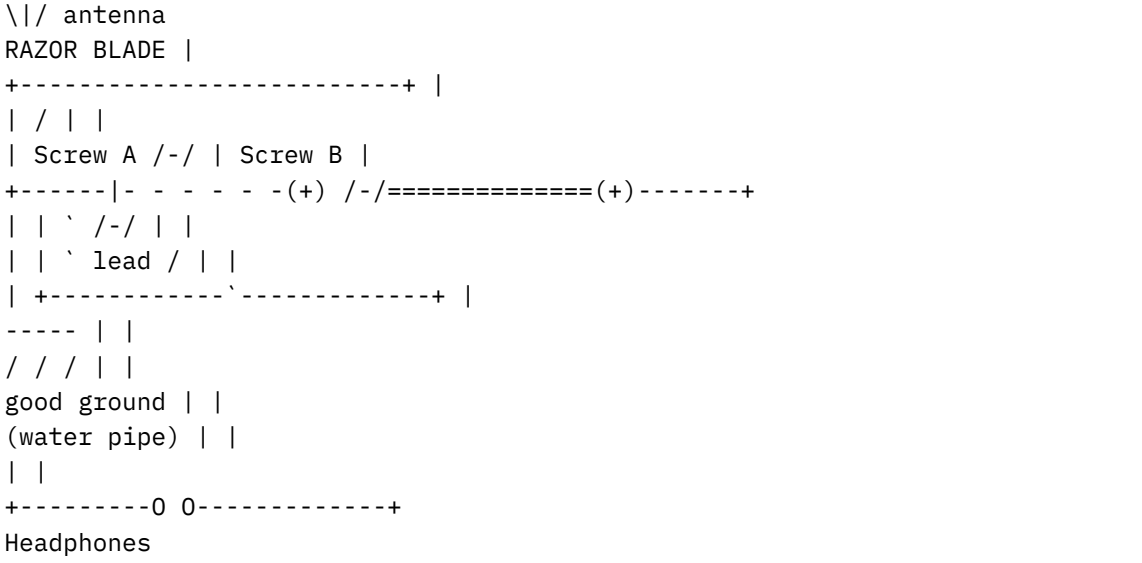
>Hello all. Anyone every heard about making an a.m. reciever using just a
>razor blade, nails, wire and a battery. If you had please let me know at
>my personal e-mail address, thanks in advance.

> Jeffrey Weil
> jeffw@shadow.net

I made many of these razor-blade radios as a young boy, from plans in a
Boy's Life magazine. Probably about 1959 or so. They really are amazing.
NO EXTERNAL POWER! I haven't actually built one for years, but need try it
again also!

Here is the basic plan, as I remember it.

Top view: (Sorry for crude ASCII drawing...)



1) Carefully buff the double-edge razor blade with a grindstone to remove
the coating and make it more sensitive.

2) Mount the razor blade loosely on a board, with a 1/2" screw (Screw A)
throught the center hole. Put a couple of washers underneath the blade to
lift it off the board and another washer above the blade.

3) Take two pieces of insulated bell wire about 5" long and remove a 1" piece
of the insulation in the center of each of them.

4) Wrap the bare section of one of the wires around the razor blade screw between the bottom washers that hold it off the board. These two pigtails will be used for connecting to the headphones and ground.

5) Put a couple of washers on another 1/2" screw, and mount it (loosely) to the board about 1/2" away from the edge of the blade.

6) Wrap the bare middle section of the other 5" wire around screw B. These two pigtails will be connected to the headphones and antenna.

7) Get a 3/4" piece of pencil lead. I recommend carving up a wooden pencil (remember those?) so you can get a good strong piece. Sand one end flat (blunt).

8) Cut a bare piece of bell wire, about 2 inches long. Now wrap one end of the wire around the pencil lead about 5 times. (Now you know why the lead needs to be fairly "fat".) The lead should protrude from the bottom of this little coil of wire.

9) Connect the other end of this wire to screw B.

10) Tighten both screws.

11) Bend the piece of wire holding the pencil lead so that the blunt end of the lead rests on the surface of the razor blade with as much surface contact as possible.

12) Connect one of the wires from screw A to a water pipe and one of the wires from screw B to a long piece of wire for an antenna.

13) Connect the other wire from Screw A to one side of the headphones. Connect the other wire from Screw B to the other side of the headphones. (Sorry, I don't have the specs on the kind of headphones to use; I had a cheap pair and they worked fine.)

14) Listen.

To tune the radio, carefully wiggle the lead (or wire holding the lead) and move it around the surface of the razor blade. Let go when you hear music! You should be able to pick up local AM radio stations.

Have fun! Report back if it works!

- Craig, AA0ZZ

4273. Re: razor blade radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <31E14A5F.1C40@staffnet.com>
Source record: 104253

Jeffw wrote:
>
> Hello all. Anyone every heard about making an a.m. reciever using just a
> razor blade, nails, wire and a battery. If you had please let me know at
> my personal e-mail address, thanks in advance.
>
> Jeffrey Weil
> jeffw@shadow.net

I did that as a kid in the 50's. I believe you have to use a razor blade with a blue coating (I think it's the special coating that is the semiconductor). I think I saw an ad for such a kit in the Antique Wireless Supply catalog (Pheonix, AZ I think).

4274. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: "Bill Turner, WB4ALM" <wb4alm@gte.net>
Message-ID: <31E17AC5.7878@gte.net>
Source record: 104254
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

While I did not ask the question... I have learned much from the responses. This a shame that eventually these notes will age off the servers, 'cause future hams could learn alot by reading and trying to understand EACH of the responses...

Thanks to everyone who provided their input - 'cause the time each of you spent answering the question has provided much understanding to those of us willing to try to understand the responses.

73 de WB4ALM

/s/ Bill Turner

4275. DAN'S SMALL PART

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: Jerry Parker <jparker@fix.net>
Message-ID: <31E17B51.12F1@fix.net>
Source record: 104255

DAN'S SMALL PARTS now has and online Internet Catalog

Dan's carries hard to find parts and also sells in small

quantities at very reasonable prices.

http://www.fix.net/dans.html

4276. Re: BEER & WINE SHIRTS <> LIQUID POUCH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: pegood@most.fw.hac.com
Message-ID: <Du8sB2.AM3@most.fw.hac.com>
Source record: 104256

In article <31dc3327.15958202@news.local.net>, Natural-by-light@pobox.com (Vince) says:
>

4277. >>> RF & Microwave components <<

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: swih@aol.com
Message-ID: <4rs0hn$1ih@nntp1.best.com>
Source record: 104257

A new supplier of Microwave and RF components.

Sea-Ward International (SWI), based in California, supplies microwave transistors, RF components and amplifiers made in China.

SWI also supplies silicon and GaAs wafers and provide foundry services.

Other products are available. You can check the SWI home page at:

http://www.best.com/~mkyady/swi1.html

or e-mail at:

swih@aol.com

4278. Schematic needed: Nordmende Z746 "Casino" SW receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: "Kenneth A. MacKay, P. Eng." <cyclops@interlog.com>
Message-ID: <4rs56b$iqb@news.interlog.com>
Source record: 104258

Hi. Anyone have a schematic? Someone has "customized" mine, and I'd like to restore it.

4279. Source for Murata RF filters?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: PBonitz@gnn.com
Message-ID: <4rsiji$c2n@news-e2b.gnn.com>
Source record: 104259

Does anyone know a source for Murata's full line of RF filters or have an address for Murata in the U.S.? DC Electronics in Scottsdale, AZ, sells only one type. I am also looking for a source of Coilcraft inductors and/or an address for the company. Please e-mail to the address above.

Bob Olson (WD4OHD)

4280. AR-1 Ramsey Kit question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: Sanjay Nair <sanjay@normal.stat.lsu.edu>
Message-ID: <31E1CC70.41C6@normal.stat.lsu.edu>
Source record: 104260

I just finished building a AR-1 (Aircraft receiver) Kit capable of
tunning between 118 -136Mhz. But I not able to tune those frequency. I
am getting the FM bands, when I adjust the tuneable inductors L6&7.
I would appreciate any help from a person who has sucessfully build this
kit.
Thanks in advance.
Sanjay

4281. Amplitude modulate Minicircuits VCOs ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: chrise@n0jcf.com
Message-ID: <4rsjbh$tk9@n0jcf.com>
Source record: 104261

I'm wondering if anyone has played with these VCOs that they
are now advertising with coverage up thru 2 GHz... and
particularly if anyone has amplitude modulated them ??

I'd like to AM modulate a 1 KHz tone (so that I can make
a little sig gen for use with my old HP 415E swr meter)...

I was wondering if I could just inject the 1 KHz into the
+V (supply) pin of the oscillator and be able to see it
on the output across the entire range that the VCO is
tunable ??

Am I dreaming ?

Thanks for any suggestions...

73, Chris

--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

4282. Re: BEER & WINE SHIRTS <> LIQUID POUCH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-08 00:00:00 UTC
From: "Bill Turner, WB4ALM" <wb4alm@gte.net>
Message-ID: <31E17DAB.3ABD@gte.net>
Source record: 104262

Lrware wrote:
>
> Here's a guy who never read any of the messages in this group.
> Wonder if I could get one with room for my transformer oil?
> Or maybe take up liquid cooled radios?
>
...Get a shirt and fill it.

Open the cover on almost any peice of equipment I have, and lean over
it.

Walla.. Torn shirt. Liquid cooled radio.

==========

Fill Shirt. Drive down street. Get pulled over.
Is this an open container?

/s/ Bill Turner, WB4ALM

4283. Re: Mini Ckts MAR-3/6 Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: "Harry H. Brown" <hbrown@vf.lmms.lmco.com>
Message-ID: <31E2AE01.41C67EA6@vf.lmms.lmco.com>
Source record: 104130

Mark Fraser wrote:
>
> Just want a few items from Mini Circuits Labs - who sells in small
> quantities?
>
> thanks / mark

I have purchased small amounts of parts directly from Minicircuits. I gave them my company name (which is in the electronics business) so there was no question about that. As I recall, they had no minimum order.

Sometimes, Kent Britisn, WA5VJB of the North Texas Microwave Society has minicircuits mmics available. You might want to check with him.

Good luck.
73, Harry, W3IIT

4284. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: Madjid VE2GMI <orion@odyssee.net>
Message-ID: <31E3360B.63CA@odyssee.net>
Source record: 104131
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Doug wrote:
>
> Gary,
>
> Thanks for making us new hams not feel so dumb.
>
> Sally KE4NPP

No one has to feal dumb because he/she does not know
everything. We all have to learn everyday, even in our
own field. I have been a ham 20 years and never stopped
learning new tricks.

Don't be turned off by a stupid reply. There are helpfull
people here.

And there are NO STUPID QUESTIONS JUST STUPID ANSWERS.

4285. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: Doug <DougandSally@worldnet.att.net>
Message-ID: <4rs89h$cjl@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104263
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Gary,

Thanks for making us new hams not feel so dumb.

Sally KE4NPP

4286. Re: Tubes: Where To Buy ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDuA61A.EAI@netcom.com>
Source record: 104264

In article <31e20a00.0@mothra.westworld.com> Jay123a <jay123a@gargamel.ptw.com> writes:
>rhiii@pop.erols.com (Richard Harrison) wrote:
>>Hello:
>>
>> Have on old Amp Supply LA-1000 amplifier that needs new tubes.
>>
>> Tube(s, 4 of them) are marked 6MJ6/6LQ6/6JE6C. Can anyone suggest
>>a place to purchase new ones at good prices ?
>>
>Hello Richard:
>
>These tubes in your amplifier use to plentiful because the TV industry
>used them as horizontal sweep tubes in their TV set designs. But not no
>more. So the good old days of 7 dollars each has long gone.
>
>Jay.

Hello Jay:

This problem comes up from time to time, and I tell people to consider rewiring the amp for a 24V filament voltage (use a 24V 2A transformer) and try a set of 24LQ6's, which are sold by antique electronic supply for $8.50 or so each (not quite $7 but still a pretty good deal). Alternatively, try 31LQ6's, and put the new 24V xfmr in series with the existing 6V filament winding.

Either way, this lets you use tubes that are still plentiful and rather cheap. I've been using a set of four ECG/Philips 31LQ6's in a Dentron GLA-1000B for some time now and they work very well - they are the same except for filmemt voltage and were very cheap (4.50 each) when I bought them last year on sale.

Just remember to clearly mark the amplifier so someone in the future doesn't plug (valuable/rare) 6LQ6's in and blow the filaments. A strategically placed fuse would be cheap insurance.

73 Dave WB0GAZ dgf@netcom.com

4287. Re: Tubes: Where To Buy ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: Jay123a <jay123a@gargamel.ptw.com>
Message-ID: <31e20a00.0@mothra.westworld.com>
Source record: 104265

rhiii@pop.erols.com (Richard Harrison) wrote:
>Hello:
>
> Have on old Amp Supply LA-1000 amplifier that needs new tubes.
>
> Tube(s, 4 of them) are marked 6MJ6/6LQ6/6JE6C. Can anyone suggest
>a place to purchase new ones at good prices ?
>
> Thanks,
>
>-- Richard/ NT2Z
>
>--
>Richard Harrison rhiii@pop.erols.com
>07/06/96 16:29
>---------
>Using: OUI TE 1.5 from http://www.dvorak.com
>
>
Hello Richard:

These tubes in your amplifier use to plentiful because the TV industry used them as horizontal sweep tubes in their TV set designs. But not no more. So the good old days of 7 dollars each has long gone.

Contact RF Parts Co. 435 South Pacific Street San Marcos CA 92069, or phone 800-737-2787 for ordering. Last I looked they were 49.95 each. Also ask for a free catalog, its a good referance source for this stuff.

Good luck.

Jay.

4288. Re: Amplitude modulate Minicircuits VCOs ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: First Last <First.Last@sematech.org>
Message-ID: <31E26A0A.49EC@sematech.org>
Source record: 104266

Chris Elmquist wrote:
>
> I'm wondering if anyone has played with these VCOs that they
> are now advertising with coverage up thru 2 GHz... and
> particularly if anyone has amplitude modulated them ??
>
> I'd like to AM modulate a 1 KHz tone (so that I can make
> a little sig gen for use with my old HP 415E swr meter)...
>
> I was wondering if I could just inject the 1 KHz into the
> +V (supply) pin of the oscillator and be able to see it
> on the output across the entire range that the VCO is
> tunable ??
>
> Am I dreaming ?
>
> Thanks for any suggestions...
>
> 73, Chris
>
> --
> Chris Elmquist, N0JCF
> chrise@n0jcf.com
> n0jcf@amsat.orgI haven't tried the Minicircuits VCO but I have used many other ones and I normally use a Minicircuits voltage controlled attenuator following the VCO or VCO and buffer. I have also used other voltage controlled attenuators with the same results. The Attenuators can provide as much as 40 dBs of modulation range.

73
WA5VTV
Michael

4289. Hamradio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: inter@interprov.INTerprov.COM
Message-ID: <31E26083.7A3A@interprov.com>
Source record: 104267

Buscamos intercambiar opiniones relacionadas a la radioaficion con radioaficionados de todo el mundo.
Via Email o por nuestra web : www.hamradio.com.ar desde el proximo lunes 15/6/96

4290. Re: Looking for Schurr key

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: jasyoung@aol.com
Message-ID: <4rtt9b$km4@newsbf02.news.aol.com>
Source record: 104268

I bought mine from Universal Radio near Columbus, OH via mail order.

73 de AA8XC

4291. Re: WTBuild!: 6 meter Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: Ken Harrison <ken@cs.sonoma.edu>
Message-ID: <31E2B9E5.5EB7@cs.sonoma.edu>
Source record: 104269

Jay123a wrote:
>
> "Michael W. Smith II" <michaels@computize.com> wrote:
> >I'd like to build a 6 meter linear amplifier. I'm going to run FM and
> >SSB on it, and I'm wondering what is involved in building one. If
> >someone could point me in the right direction, i'd really appreciate
> >it!!
> >
> >73's
> >Michael
> >N5TGL
>
> Hello Michael:
>
> How about a linear amplifier that uses a 4CX250R or a couple of them for
> a six meter amplifier. Get a hold of Varian, Eimac Division 301
> Industrial Way San Carlos CA 94070, or phone Linda DeLoring at
> 800-414-8823 #1 for product information. She can send you technical data
> on their tubes. Ask for "The Care and Feeding of Power Grid Tubes" book.

You can try http://user.itl.net/~equinox/4cx.html
for plans for a six meter amp.

http://user.itl.net/~equinox/ has a bunch of other 50 MHz stuff, too.

--

Ken Harrison -- ken@cs.sonoma.edu -- Amateur Radio: N6MHG
~~~~~~
Visit the Sonoma County Radio Amateurs Web Pages!
http://www.cs.sonoma.edu/~ken/scra.html
"Home of Hank's Swap Shop!"
~~~~~~

4292. Re: Amplitude modulate Minicircuits VCOs ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <9YPevBA6gZ4xEwqU@briano.demon.co.uk>
Source record: 104270

In article <4rsjbh$tk9@n0jcf.com>, Chris Elmquist <chrise@n0jcf.com>
writes
>I'm wondering if anyone has played with these VCOs that they
>are now advertising with coverage up thru 2 GHz... and
>particularly if anyone has amplitude modulated them ??
>
>I'd like to AM modulate a 1 KHz tone (so that I can make
>a little sig gen for use with my old HP 415E swr meter)...
>
>I was wondering if I could just inject the 1 KHz into the
>+V (supply) pin of the oscillator and be able to see it
>on the output across the entire range that the VCO is
>tunable ??
>
>Am I dreaming ?
>
>Thanks for any suggestions...
>
>73, Chris
>

-hello
i think there is a big possibility that you will make fm if you mod the
+ supply line, i would suggest that you take the output through a diode
attenuator circuit and impress your audio on the diode bias
G8DQQ bye-
Brian Olliver

4293. Re: BEER & WINE SHIRTS <> LIQUID POUCH!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: pegood@most.fw.hac.com
Message-ID: <DuAAC1.62K@most.fw.hac.com>
Source record: 104271

In article <31dc3327.15958202@news.local.net>, Natural-by-light@pobox.com (Vince) says:
>

4294. Re: Amplitude modulate Minicircuits VCOs ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: stevem@best.com
Message-ID: <4ru67j$rgo@shellx.best.com>
Source record: 104272

In article <4rsjbh$tk9@n0jcf.com>, Chris Elmquist <chrise@n0jcf.com> wrote:
>I'm wondering if anyone has played with these VCOs that they
>are now advertising with coverage up thru 2 GHz... and
>particularly if anyone has amplitude modulated them ??
>
>I'd like to AM modulate a 1 KHz tone (so that I can make
>a little sig gen for use with my old HP 415E swr meter)...
>
>I was wondering if I could just inject the 1 KHz into the
>+V (supply) pin of the oscillator and be able to see it
>on the output across the entire range that the VCO is
>tunable ??
>
>Am I dreaming ?
>
>Thanks for any suggestions...
>
>73, Chris
>
>--
>Chris Elmquist, N0JCF
>chrise@n0jcf.com
>n0jcf@amsat.org

Generally, the application of modulation to the +V supply of a VCO causes more FM than AM (called frequency pushing). If you can stand FM and AM at the same time, your idea will work. If you just want AM only, I would do something like a PIN diode modulator or balanced modulator at the VCO output.

Hope that helps

Steve Muther WF6R

4295. Single Band HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: aa8xc@aol.com
Message-ID: <4ruavq$pm8@newsbf02.news.aol.com>
Source record: 104273

Back in the 60's or 70's the ARRL Handbook had a series of single band rack mounted HF amplifiers which shared only a common power supply.

If anyone remembers these and which issue(s) they were in I'd appreciate being reminded. I had the book at one time but must have gotten rid of it years ago.

Thanks in advance for your help.

73's Jim

4296. Re: Homebrew Meter Scales

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: aa8xc@aol.com
Message-ID: <4rubd6$pq8@newsbf02.news.aol.com>
Source record: 104274

I have had good luck using Autocad and a laser printer. I'm sure other CAD programs would be as capable.

73's Jim, AA8XC

Jim Young, AA8XC
Grafton Township, Ohio

4297. Voice output development tools

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: qvox@onramp.net
Message-ID: <4rum7c$4f@news.onramp.net>
Source record: 104275
Cross-posted to: aus.radio.amateur.digital,aus.rail.models,comp.home.automation,rec.models.railroad,rec.models.rc.misc,rec.radio.amateur.homebrew,alt.comp.hardware.homebuilt,alt.comp.hardware.homedesigned

A new WWW site (http://rampages.onramp.net/~qvox) describes a
low-cost software/hardware development tool for creating voice output
subsystems. Windows(tm) based acquisition, analysis and editing software, in
combination with a standard 16-bit sound card, codes and formats speech for
programmation into Texas Instrumemts TSP50P11 OTP speech synthesizer chips.

Larry Brantingham
Quadravox, Inc
qvox@onramp.net

1-214-669-4002

4298. Re: Cw on 2M FM rig

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: Tfugate@pop.uky.edu
Message-ID: <4ru9ne$k9a@service3.uky.edu>
Source record: 104276

In article <456@wilkes.ak.planet.co.nz>, tony@wilkes.ak.planet.co.nz (Tony Wilkes) says:
>
>I have an Kenwood TW4000 2m AND 70cm FM rig with no cw key socket
>The query could apply to many FM rigs however.
>
>Is there any risk of damage to the rig if I key the push-to-talk
>pins on the mic input socket ?????? and would the output be OK in
>waveshape as a clean CW signal ????
>
>If you have done this please let me know your results
>
>Thanks
>73 Tony
>
>
>
>
>--
>Tony Wilkes --- Whangaparaoa, North Island, New Zealand
>Interests - Ham Radio ZL3SLH- Royal Forest & Bird - Croquet

While CW is not my favorite mode, I have used an Icom IC-2AT with an
old "key" to send CW and with a oscillator to sen MCW. Never had any
problem and still use the HT. I also have doen the same thing one on
my IC-28A and it worked fine also. Most modern, no TR relay, radios
should not be damaged by this. (Just a guess on my part). Of course
it is odd to have CW inverted by the HT going quite with the CW signal,
and the "hiss" with no signal there....
MCW is better because you can "close" the squelch.
Have fun
.....
Terry Fugate
UKTV
University of Kentucky
"The opinions expressed herein are mine, and soley mine. They do not
represent the official view of the University of Kentucky,
the State of Kentucky, or any agency of any government.
If you do not like my opinion, just get on with your life.
I will not change your mind and you damn sure can not change mine."

4299. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: kc5egg@ix.netcom.com
Message-ID: <4rud5i$82p@sjx-ixn3.ix.netcom.com>
Source record: 104277
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <cgreenha.477.31DD3E23@magnus.acs.ohio-state.edu>
cgreenha@magnus.acs.ohio-state.edu (Christopher K. Greenhalgh) writes:
>
>In article <4rjcrh$4lb@nntp-1.io.com> rwc@io.com (RWC) writes:
>
>[snip]
>
>> I myself am in that position. However, I'm quickly learning that
>>HAM operators aren't the type of people I had heard they are. This fool
>>Myron Calhoun took it on himself to write me an ignorant insulting
>>letter, implying that newcomers are welcome but if they have any
>>questions that they are NOT welcome to ask them and that any information
>>they get is to be obtained solely on their own.
>
>
>Hi RWC.
>
>I would like to offer an explaination. It seems the internet can bring out the

>worst in people. Many come here just to flame and attack. I dont know why it
>is, perhaps its the anonymity of being behind the keyboard, or something else,

>but I DO know its basically true in most groups...not just ham radio ones.
>

Why is Chris answering this post? The poster has said he will not be reading
the news groups any more so it is certainly lost on him. Perhaps it is just to
foster good will, perhaps there is more to it.

>There are those who do these types of things reguarly, like Burt, Gerry, Drew
>and others, as nothing more than to cause trouble. While even I have been
>sucked into petty flame wars, I think its safe to say that most of us do NOT
>condon, or support the likes of the above mentioned.
>

Wait there's something wrong here. None of the folks mentioned in the above
paragraph have contributed to this thread why are they mentioned? Could it be
that St. Christopher the lesser has taken a cheap shot while waxing eloquently
about the wonderful folks such as himself who are one the net?

>What you heard about hams helping others that want to join is true of most of
>us. All I will ask, is that you dont base your entire opinion about amatuer
>radio, by what you hear here.
>

I have to agree most of the amateurs I have met on the air and/or in person
are much nicer than what you see here, myself included. Oh by the way be
careful of those feet of clay Chris I hear it's raining in Ohio.

>I would also like to offer any insight, help, suggestion, or anything else you
>may want, regarding amateur radio.
>
>Take care.
>
>ARRL Local Government Liason
>Central Ohio Traffic Net Manager
>Central Ohio Severe Weather Net Control Station
>Capitol City Repeater Asc. Control Op.
>Central Ohio Radio Club Control Op.
>Central Ohio Packet Asc. Member
>
>
Impressive list of credentials, is it all true? Inquiring minds want to
know,
and will be checking. Is the Central Ohio Traffic Net run on VHF?

By the way when blindly insulting me in the future please spell my name
correctly.

Jerry
>
>
>> He ALSO commenced to make a weak attempt at hurling insults
at
>me >for asking such a "stupid" question about antenna/wave length.
What the
>>old fool didn't take time to do is see who asked the question. That
was
>>not me, yet he is going to write me and slam me for it.
>> Myron challenged my "maturity..." I have yet to figure out
where
>>he comes off with that. Even if I HAD asked the question about the
>>antenna and wave length, how does that make someone immature?
>>
>> Look... I was told HAM operators welcome new comers with
open
>>arms and are always happy to help someone else get started in the
>>hobby. I was looking in to it on my own and discovered that there
are
>>many ways to go (2M, 6M, 10M, etc) and wasn't sure which way to go.
I
>>haven't asked though, because anytime someone asks a question like that,
>>he receives nothing but rude replies and remarks. I haven't asked
>>PUBLICLY that is... I've had the fortune of finding ONE friendly ham though.
>> I was also told to start going into the amateur (look up the
>>definition for amateur by the way) newsgroups and that I could start
>>participating and asking questions there to help learn. Boy, were they

>>wrong. New HAM operators, or prospects, are treated rudely and
>>insulted... not what I would call a warm welcome.
>> My apologies to everyone here. I was foolish in believing such
>>an ignorant thing... Don't bother replying publicly, nor in e-mail.
>>When I post this, I am going to unsubscribe from the asshole, er, amateur
>>radio newsgroups - email will be erased without being read if it's from
>>the newsgroups... don't bother. And don't bother ME.
>
>
>

>
>
>Christopher K. Greenhalgh, N8WCT
>Computer/Electronic Tech. II at The Ohio State University
>E-Mail: ckg+@osu.edu (cgreenha@magnus.acs.ohio-state.edu)
>AX.25 : n8wct@w8cqk.#cmh.oh.usa.noam

4300. Re: WTBuild!: 6 meter Linear

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDuAo2u.C9I@netcom.com>
Source record: 104278

In article <31E2B9E5.5EB7@cs.sonoma.edu> Ken Harrison <ken@cs.sonoma.edu> writes:
>Jay123a wrote:
>>
>> "Michael W. Smith II" <michaels@computize.com> wrote:
>> >I'd like to build a 6 meter linear amplifier. I'm going to run FM and
>> >SSB on it, and I'm wondering what is involved in building one. If
>> >someone could point me in the right direction, i'd really appreciate
>> >it!!

>> How about a linear amplifier that uses a 4CX250R or a couple of them for
>> a six meter amplifier. Get a hold of Varian, Eimac Division 301
>> Industrial Way San Carlos CA 94070, or phone Linda DeLoring at
>> 800-414-8823 #1 for product information. She can send you technical data
>> on their tubes. Ask for "The Care and Feeding of Power Grid Tubes" book.
>
>You can try http://user.itl.net/~equinox/4cx.html
>for plans for a six meter amp.
>
>http://user.itl.net/~equinox/ has a bunch of other 50 MHz stuff, too.

Let's talk a _MAN'S_ 6M amplifier!! The 1985 ARRL handbook has a grid driven
6M amp using a single 4-1000 tube, with swamped grid drive, so it claims
10 watts in, 800 watts out using a 3500V power supply and 900V on the screen.
Don't see why you couldn't push it harder (the tubes are cheap and rugged).
Looks real simple mechanically!

73 Dave WB0GAZ dgf@netcom.com

4301. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-09 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4rulb9$fu@newsbf02.news.aol.com>
Source record: 104279

For what it's worth:

I have posted my share of questions in this ng, and answered several as well. I don't know as I have ever received a hostile response to a legitimate technical question here, but I can tell you that elsewhere on the net, jerks await at every turn.

I, too, have posted questions about certain circuits or pieces of equipment, and had some nitwit write me a flame accusing me of being lazy, and directing me to "figure it out" by myself. (This was in addition to the standard aol bigotry which, at this point, I am growing very tired of.) Ironically in further conversation with him, it became obvious that I had forgotten more about the subject matter than he probably ever knew. So, while he had no idea what I was really asking, and while he didnt couldnt respond to my post on a technical level, he somehow found the time to be an a**hole.

I for one think this forum (and the other newsgroups as well) are about the exchange of ideas and information. I have never turned my back on anyone who I could help, and certainly have never dumped on them for asking a question.

I think what the internet needs, in general, is a little bit more civility, and little more kindness. Its easy to forget, while pounding on an inanimate keyboard, that there are human faces at the other end of the wire. We all forget.

Lets talk about "homebrew" topics now, shall we?

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

4302. Q: Injected Carrier Detection in Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: akent@bga.com
Message-ID: <4rv36u$s12@news3.realtime.net>
Source record: 104132

I am relatively new to analog, so please bare with any ignorance herein.

I am toying with the idea of a full duplex data channel using a single carrier frequency. In this idea, the master transceiver would inject a carrier along with SSB data. The slave transceiver(s) would lock onto the carrier both in frequency and phase, and they would be locked, using synchrodyne (no heterodynes at this point). The slave transceiver would then be able to transmit data using the same carrier on the other sideband back to the master, who uses the original phase to demodulate this back channel data.

Here is the Q.
Is there a reliable way to lock the slave to the master carrier frequency? I am currently using an opamp with a crystal to serve as a very narrow band pass filter. This works a bit, but the received data is part of the carrier, as the Q is maybe not high enough. I have tried PLL's, too.

Any ideas?

Thank you for your help.
Kent

4303. 6 Meter Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: rudix@pipex.co.ZA
Message-ID: <199607100643.IAA01122@mailhost.pipex.co.za>
Source record: 104133

Hello Everyone,

I want to build a 6 m linear, this linear should have at least 200 w PEP output if not more, I don't mind if it is solid state or valve based. A low driving power (2 w) would be great.

I wonder if anyone out there in hamland can help with circuits or suggestions ?

Thanks for the information !!

73, Rudi de ZR6VE

rudix@infopta.co.za

4304. Recommendations for mircrostripline design software packages?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: n9xlt@holli.com
Message-ID: <DuB6vB.9Av@iquest.net>
Source record: 104134
Cross-posted to: alt.eletronics.manufacture.circuitboard,alt.engineering.electrical,sci.electronics.design,sci.electronics.cad,sci.electronnics.misc,rec.radio.amateur.homebrew

Does anyone have any recommendations for software used in designing microstripline circuit boards? Urls, catologues, packages, etc... Any information would be greatly appriciated.

Thanks,
N9XLT (David A. Wallace)
n9xlt@holli.com
Kokomo, In.

4305. Fan/blower suppliers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jul10.094124.67679@ucl.ac.uk>
Source record: 104135

I've been looking for (and still am) a large blower too cool a 3CX5000A7 tube.
I've found a number of commercial companies that sell such fans, although they are
obviously much more expensive than surplus ones. Anyway, if anyone else is looking
for a new fan, you should find what you are looking for in the list below.

If anyone has a 7" (or more) wheel diameter centrifugal fan, running at more than
2600 rpm, let me know. I'll pay any reasonable price for the right item.

Airflow Developments Ltd,
Lancaster Road,
High Wycombe,
Buckinghamshire,
HP12 3QP,
ENGLAND.
(They do a decent range, and have a *very* informative catalogue)

Air Control Industries (ACI),
Silver St,
Chard,
Somerset,
TA20 2AE,
ENGLAND.
Tel: 01460 67171
Fax: 01460 61700
(They have a good range, and for the one application I have are quite reasonably priced.
Unlike Airflow Developments (above) they make some pretty big fans (ie 2 kW
motors) with single phase supplies.)

Halken Electrical Ltd,
Unit 17,
Zennor Road Industrial Estate,
London,
SW12 OPS.
Tel: 0181-673-7322
Fax: 0181-673-8065
(They seem to aim more at the air-conditioning type applications. They
appear only to sell fans made by other companies, and seem to have
little useful technical information. They sell sepparately fan wheels, housings and
motors).

Nicotra UK Ltd,
Masbrough Street,
Rotherham,
S. Yorkshire,
S60 1ER,
England.

Tel: 01709-376747
Fax: 01709-362031
(Do a large range of direct drive fans. Cheapest I found for cooling the 3CX5000A7)

Secomak,
Honeypot Lane,
Stanmore,
Middlesex,
HA7 1BE,
ENGLAND.
Tel: 0181-952 5566
Fax: 0181-952 6983
(They don't do small fans, but do sell some *seriously* high spec and
expensive fans. Good if you need something special, such as multi-stage
units that can pump against large back-pressures. Probably not of use
for the fans typically used by radio amateurs)

Ziehl-Ebm (UK) Ltd,
17-19 Richmond Road,
Dukes Park Industrial Estate,
Chelmsford,
Essex,
CM2 6TL,
ENGLAND.
Tel: 01245-468556
Fax: 01245-466336
(This is a German company. Range seems a bit limited at the high end -ie nothing
at all to cool a 3Cx5000A7 tube.)

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

4306. Re: Why difficult to generate high power at UHF?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul10.143547.11317@ke4zv.atl.ga.us>
Source record: 104136

In article <4rg6p0$hbd@server2.codetel.net.do> Bill Meara <w.meara@codetel.net.do> writes:
>Here's a question that has been bothering me for a long time:
>
>Why is it that it becomes more difficult to generate RF power as we
>increase frequency? Why do HF transceivers often have more power out on
>80 meters than they do on 10? Why is it so difficult to get lots of
>power out in the VHF and UHF ranges?

The device input and output capacitances present lower and lower impedances as frequency increases. This effectively shunts signal power, requiring more drive, and delivering less output power to the load. Or looked at alternatively, the time constant for charging and discharging the input capacitance becomes long with respect to a cycle as frequency increases, the capacitance thus doesn't get fully charged on each driving cycle, and less peak to peak gate voltage is available to the active device as a result.

This assumes a constant impedance driving source. If you lower the driving source impedance as frequency increases, you can reduce the time constant of the gate circuit in step with increasing frequency and maintain peak to peak drive voltage. There are practical limits to how low a driving source impedance you can use, however, so this only goes so far.

A similar thing happens on the output side, with the device having to charge the output capacitance, and the load having to discharge it, in the space of a cycle. The peak to peak output voltage falls, and according to P=E^2/R, power output falls as well unless you lower the load R in step with increasing frequency. Again there are practical limits to how far you can go in that direction.

You can "tune out" the device capacitances with series inductance, but this is inherently narrowband, and also can lead to instability if you aren't careful due to phase shifts which may induce the circuit to become an oscillator. The best thing you can do is select devices with low input and output capacitance, but that means gate area becomes very small at higher frequencies and you run into power handling limits.

At very high frequencies, transit time of the majority carriers becomes a factor. To minimize that, you want a very short channel, but that also limits power handling (because it lowers the PIV punch through limit). In some cases, you can take advantage of transit time by using "slow wave structures", IE the principle behind the traveling wave tube. You can even do that with solid state devices using a circuit called a distributed amplifier. It

gets pretty complex pretty quickly, however.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4307. Re: Recommendations for mircrostripline design software packages?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: 73573.1504@compuserve.com
Message-ID: <4s0k54$f8h@nntpa.cb.lucent.com>
Source record: 104137

There is a free transmission line software package at
http://users.deltanet.com/~pekarek/index.html#AWR that seems to be be
quite nice. You do have to fill out a questionarre to get the
software, but that is relatively painless.

n9xlt@holli.com (David A. Wallace) wrote:

>Does anyone have any recommendations for software used in designing
>microstripline circuit boards? Urls, catologues, packages, etc... Any
>information would be greatly appriciated.

> Thanks,
> N9XLT (David A. Wallace)
> n9xlt@holli.com
> Kokomo, In.

Opinions Expresses Are Entirely My Own.
In Fact It Is Rare That Anybody Agrees With Me.

Mike Penner | "Firearms Stand Next In Importance To The
Lucent Technologies | Constitution Itself. They Are The American
map@cbmsg.att.com | People's Liberty Teeth." George Washington

4308. Re: Can someone I.D. these Amidon cores' frequency range?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: Madjid VE2GMI <orion@odyssee.net>
Message-ID: <31E3F4D0.5416@odyssee.net>
Source record: 104138

Toroid info on the WEB

http://zeus.cedcc.psu.edu/ind/toroid.html

4309. Re: Single Band HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul10.152108.11609@ke4zv.atl.ga.us>
Source record: 104139

In article <4ruavq$pm8@newsbf02.news.aol.com> aa8xc@aol.com (AA8XC) writes:
>Back in the 60's or 70's the ARRL Handbook had a series of single band
>rack mounted HF amplifiers which shared only a common power supply.
>
>If anyone remembers these and which issue(s) they were in I'd appreciate
>being reminded. I had the book at one time but must have gotten rid of it
>years ago.

Jim, you'll find the project starting on page 194 of the 1962 Handbook.
Each single band amp uses a pair of 813s in parallel, with a link coupled
grid circuit and a Pi network output circuit. Filament and drive power
are switched to the active amplifier, HV, screen voltage, and bias are
maintained on all of them all the time from the common power supply.

I don't think much of the idea of switching filaments on with HV and
bias already present. 813s are tough old birds, but that's still abuse.
I'd consider a time delay relay in each RF deck that kept screen voltage
off the tubes until their filaments warmed up.

The author doesn't mention this (I guess he assumed everyone would
realize it), but the meters are hot in this design. They need to be
behind a protective insulating barrier. The picture shows the meter
panel recessed behind a glass window, and you should take care to
duplicate this safety feature.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4310. Tools for voice synthesis

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: qvox@onramp.net
Message-ID: <4s0m1n$dis@news.onramp.net>
Source record: 104140

A new WWW site (http://rampages.onramp.net/~qvox) describes a
low-cost software/hardware development tool for creating voice output
subsystems. Windows(tm) based acquisition, analysis and editing software, in
combination with a standard 16-bit sound card, codes and formats speech for
programmation into Texas Instrumemts TSP50P11 OTP speech synthesizer chips.
We've been told that there might be some interest in amateur radio in a
custom voice output capability. See what you think!
Thanks.

Larry Brantingham
Quadravox, Inc
qvox@onramp.net

1-214-669-4002

4311. Re: Q: Injected Carrier Detection in Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4s0vh7$ld4@peabody.colorado.edu>
Source record: 104141

If you are having a problem with keeping the other sideband out of the carrier phase-lock circuitry because your filters aren't sharp enough, then I expect you will also have a problem with the wrong (that is, supposedly supressed) sideband jamming the incoming correct sideband. Repeaters are full duplex, and they use of order 1 MHz offset between incoming and outgoing signals - say about 1% of the carrier freq - and nevertheless need triple cavity filters for 100 dB isolation to keep from jamming themselves. If your data is ~ audio freq., then the sidebands will be only kHz apart - a small fraction of 1% of the carrier bandwidth, perhaps - with correspondingly more difficult isolation requirements. Cell phones get by by using ~ 60 MHz offset between TX and RX, which is nearly 10% of the carrier freq.

You mention not wanting to do heterodyne. Why not? If you have this sideband here, and that sideband there, both phase locked to some carrier, what, philosophically, distinguishes that from having two carriers a good ways apart, and phase-locked to eachother? By modulating these "different" carriers, you avoid having to suppress one of the sidebands at each end - they're not necessarily right on top of one another.

You could *make* the sidebands not be on top of one another by putting one well outside of the other - say, one at audio and one at 1 MHz, use DSB transmission both ways, and use simple low-pass or high-pass filters at each end, but now there's "another" carrier anyway, the 1MHz you mixed with the other data stream to get it way away from the first bunch of modulation, so I see this as nothing gained over simply starting with two carriers in the first place.

These can still be phase-locked to eachother: divide "the" carrier digitally by, say, 16, and mix it in, so one carrier is at f and the other is at (15/16) f, and they're still phase-locked, but now nice and far apart - perhaps out of easy jamming distance from one another, and you don't have to sweat the filtering.

Bruce
N6URH

4312. 900 Mhz boost?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: colinm@earthlink.net
Message-ID: <4s12rk$hj4@peru.it.earthlink.net>
Source record: 104142

I live ruraly, and if I could get my 900Mhz phone to go a little farther would have internet access!!!!! Any pro's out there give me some advice on 900 Mhz antenna design or bower boost?

Thanks,
You can e-mail me 'ram@indra.com' of reply here...

4313. Help w/ DCR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: crsmith@ocean.st.usm.edu
Message-ID: <4s0qbp$77e@thorn.cc.usm.edu>
Source record: 104143

I know this prolly goes to another group, but this one is close...

I have a Jerrold DCR (digital cable radio) and I need to know if
there is a way to 'enable' it with some kind of hack...

/Space Is The Place\
|---CRussSmith-----|-==> http://sushi.st.usm.edu/~crsmith
\~~revolving kitty~/

4314. Re: Mini Ckts MAR-3/6 Source

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: ian@bag-end.demon.co.uk
Message-ID: <837034656.11628.0@bag-end.demon.co.uk>
Source record: 104144

mfraser@vanbc.wimsey.com (Mark Fraser) wrote:

>Just want a few items from Mini Circuits Labs - who sells in small
>quantities?

Minicircuits will accept credit card orders direct in the UK through
their distributor. They have minimum order charge of 25 punds in UK
but for most of MAR/MAV series minimum qty is 10 pieces so that's no
problem.

--
Ian Baines
ian@bag-end.demon.co.uk (home)
ianb@epid.eurotherm.co.uk (work)

4315. Re: Amplitude modulate Minicircuits VCOs ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: steve@hprnd.rose.hp.com
Message-ID: <4s1b12$p9m@rosenews.rose.hp.com>
Source record: 104145

Chris Elmquist (chrise@n0jcf.com) wrote:
: I'm wondering if anyone has played with these VCOs that they
: are now advertising with coverage up thru 2 GHz... and
: particularly if anyone has amplitude modulated them ??

: I'd like to AM modulate a 1 KHz tone (so that I can make
: a little sig gen for use with my old HP 415E swr meter)...

: I was wondering if I could just inject the 1 KHz into the
: +V (supply) pin of the oscillator and be able to see it
: on the output across the entire range that the VCO is
: tunable ??

: Am I dreaming ?

: Thanks for any suggestions...

: 73, Chris

: --
: Chris Elmquist, N0JCF
: chrise@n0jcf.com
: n0jcf@amsat.org

I'd guess that you'd get more FM modulation than AM modulation.
This is because, even if the varactor diodes are AC coupled, a
change in the oscillator operating point is likely to cause some
change in tank capacitance.

How about following it with a buffer stage and modulating that?

-Steve Kootstra

4316. [Q] AM-to-shortwave receiver conversion question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: pkinnes@CyberRamp.net
Message-ID: <4s1dj7$8d5@newshost.cyberramp.net>
Source record: 104146

A number of years ago (around 1991 or 92), I remember seeing an article in an electronics magazine about converting a Radio Shack AM-only "Flavoradio" for shortwave use. The modification involved removing the ferrite rod antenna from the radio and replacing it with an airwound coil, with a number of taps selected through a multiple-position rotary switch.

I remember modifying one of these and being astounded by the results. My little receiver served me well for many years, but in my last move, it kind of got lost among all the boxes. Rather than rooting through all my boxes to find it again, I would prefer to build another one.

This then brings me to the point of this post. I remember that the form of the air-core coil was approximately 1 inch in diameter (I think I used a film cannister), but I don't know the number of turns of 30-gague wire per tap. I'd much rather get a number on this one than to just use the "try-it-and-see" method.

Alternatively, wouldn't just using an air-core coil made of rigid, widely-spaced turns, tapped by an aligator clip work just fine? If so, then does anyone know where I might be able to find a source, aside from having to canniballize older radio equipment to get it?

Thanx in advance for any help!

-- Patrick Innes

4317. Re: Radio/Computer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: rkoblish@aol.com
Message-ID: <4s1k9o$881@newsbf02.news.aol.com>
Source record: 104147

Try using an outside antenna fed with coax. That way the computer noise is farther away from the antenna.

Bob Koblish
N3HAT

4318. Re: Single Band HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4s1tb0$crt@newsbf02.news.aol.com>
Source record: 104148

In article <1996Jul10.152108.11609@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us (Gary Coffman) writes:

>I don't think much of the idea of switching filaments on with HV and
>bias already present. 813s are tough old birds, but that's still abuse.
>I'd consider a time delay relay in each RF deck that kept screen voltage
>off the tubes until their filaments warmed up.

Thoriated tunsten tubes do not require delay of voltage application. They are not subject to emission stripping of the cathode by excessive current for the temperature. They simply saturate, and no harm is done. A thoriated tunsten tube's circuit can actually be in the operating mode as the filament is turned on without harm to the tube.

Only indirectly heated metal oxide cathode tubes like the 8877 require warm up delays. They are subject to emission deterioration if operated beyond current limits established by cathode temperature and cathode surface area.

If that isn't reason enough adding a delay circuit for the few seconds warm-up required by an 813 is a waste of time and effort. By the time you hand leaves the power switch the tube will be ready to operate.

>The author doesn't mention this (I guess he assumed everyone would
>realize it), but the meters are hot in this design. They need to be
>behind a protective insulating barrier. The picture shows the meter
>panel recessed behind a glass window, and you should take care to
>duplicate this safety feature.

Better yet, move the meters to a safe electrical location at the grounded side of the supply and protect the grounded supply rails from meter opens with diodes.

73 Tom

4319. Gerber file viewer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-10 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.7.10.18.25.30.2443217854.3048192@hcol.humberc.on.ca>
Source record: 104149

Can anyone knowledgeable in pc board CAD drawing point me to
a decent shareware Gerber file viewer ?
The one I have now is quite crude...it shows all lines as the same
regardless of their thickness. The program is okay for checking
general connectivity and placement but not so great with detail.
I'd like to see if there is something better out there.
I would consider commercial software too if the price is reasonable.

(The schematic/pc board package I use shows multi-layers in x-ray
perspective rather than mirrored images as you would see it by flipping
the board. A gerber viewer really helps to see what the board will
really look like from the plots.)

Many thanks !

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

4320. Re: Q: Injected Carrier Detection in Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: akent@bga.com
Message-ID: <4s1qug$cvq@news3.realtime.net>
Source record: 104150

From Kent Farnsworth, the original poster responds:

tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:

>If you are having a problem with keeping the other sideband out of the
>carrier phase-lock circuitry because your filters aren't sharp enough,
>then I expect you will also have a problem with the wrong (that is,
>supposedly supressed) sideband jamming the incoming correct sideband.

Actually, I found my own answer today! I happened across it, and it
works, in wire at least! I will need to see what distance works with
the system using air RF. Phase shift with distance may be a problem.

The whole idea behind this toy idea is to use as little as possible of
the RF bandwidth. My theory is that if you bandwidth limit data, pass
each direction over one SB using a carrier, you effectively halve the
bandwidth on the air. From what I have seen, FM, AM, DSB, and every
other method that everyone uses takes up twice the bandwidth of the
spectrum relative to this idea.

>Repeaters are full duplex, and they use of order 1 MHz offset between
>incoming and outgoing signals - say about 1% of the carrier freq - and
>nevertheless need triple cavity filters for 100 dB isolation to keep from
>jamming themselves. If your data is ~ audio freq., then the sidebands
>will be only kHz apart - a small fraction of 1% of the carrier bandwidth,
>perhaps - with correspondingly more difficult isolation requirements.

It works now, albeit with wire.

>Cell phones get by by using ~ 60 MHz offset between TX and RX, which is nearly
>10% of the carrier freq.

>You mention not wanting to do heterodyne. Why not?

If I can get this system working at about 16 to 25mhz, then it should
also work at any higher frequency. I would like to make it work at HF
and then play with bumping the frequency up.

>If you have this
>sideband here, and that sideband there, both phase locked to some carrier,
>what, philosophically, distinguishes that from having two carriers a good
>ways apart, and phase-locked to eachother?

Spectrum bandwidth. A single carrier will not offend the 'other'
frequency, hopefully.

> By modulating these
>"different" carriers, you avoid having to suppress one of the sidebands at

>each end - they're not necessarily right on top of one another.

I agree that suppressing sidebands is a relative pain, but, if it
utilizes bandwidth better, and you can do it cheaply, why not?

>You could *make* the sidebands not be on top of one another by putting one
>well outside of the other - say, one at audio and one at 1 MHz, use DSB
>transmission both ways, and use simple low-pass or high-pass filters at
>each end, but now there's "another" carrier anyway, the 1MHz you mixed
>with the other data stream to get it way away from the first bunch of
>modulation, so I see this as nothing gained over simply starting with two
>carriers in the first place.

Again, my argument, etal.

>These can still be phase-locked to eachother: divide "the" carrier
>digitally by, say, 16, and mix it in, so one carrier is at f and the other
>is at (15/16) f, and they're still phase-locked, but now nice and far
>apart - perhaps out of easy jamming distance from one another, and you
>don't have to sweat the filtering.

The problem with digital (IE PLL), is that ultimately you have to
convert digital back into a single frequency. This is no trivial
matter. I have used all kinds of methods to achieve a real pure sine
from a square wave and it COSTS money to do.

The whole idea in this toy endevour is to produce a very minimal
relative spectrum usage full duplex data channel, using VERY cheap
components. I found that you can modulate digital at any frequency,
and not need any exotic modem's, DSP's, etc. You just play with
digital edges. The spectrum thanks you too.

Kent

>Bruce
>N6URH

4321. Reminder: Ham Radio Online is now at www.hamradio-online.com

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: vbook@vbook.com
Message-ID: <4s1rcc$q3e@news.accessone.com>
Source record: 104151
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.digital.misc,rec.radio.amateur.policy,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.scanner,rec.radio.shortwave

Apparently our new URL *IS* a lot easier to remember than the old one - on our second day at the new URL, we exceeded our average daily figure for number of visitors and its been growing ever since. None the less, for those of you who have not yet discovered our new address, Ham Radio Online "Magazine" is now at http://www.hamradio-online.com

Recent stories (this week) include Hurricane Bertha, MSN drops amateur forum, RACES activation in Riverside County firestorms and much more.

Thanks!

Ed (KF7VY) and Kim (N7VPL) Mitchell
email to vbook@vbook.com
Visit Ham Radio Online, it's free! at
http://www.hamradio-online.com

4322. Re: Q: Injected Carrier Detection in Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul11.021556.14013@ke4zv.atl.ga.us>
Source record: 104152

In article <4rv36u$s12@news3.realtime.net> akent@bga.com (Kent Farnsworth) writes:
>I am relatively new to analog, so please bare with any ignorance
>herein.
>
>I am toying with the idea of a full duplex data channel using a single
>carrier frequency. In this idea, the master transceiver would inject a
>carrier along with SSB data. The slave transceiver(s) would lock onto
>the carrier both in frequency and phase, and they would be locked,
>using synchrodyne (no heterodynes at this point). The slave
>transceiver would then be able to transmit data using the same carrier
>on the other sideband back to the master, who uses the original phase
>to demodulate this back channel data.

The problem I see with this is that the local transmitter would
overwhelm the local receiver, IE the locally generated signal
would be so much stronger than the signal received from the distant
station that it would dominate the AGC and block reception of the
distant carrier.

>Here is the Q.
>Is there a reliable way to lock the slave to the master carrier
>frequency? I am currently using an opamp with a crystal to serve as a
>very narrow band pass filter. This works a bit, but the received data
>is part of the carrier, as the Q is maybe not high enough. I have
>tried PLL's, too.
>
>Any ideas?

A squaring loop can recover the carrier without being bothered by
the modulation.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4323. Re: Homebrew Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: Bob Mueller <IFF161@DJUKFA11.BITNET>
Message-ID: <96193.094914IFF161@DJUKFA11.BITNET>
Source record: 104153

Because it may not be too well known, I point out that the scales of meter movements are not very linear. The scales of good movements are individually matched or drawn. I know of one important manufacturer that had several versions of scales already printed and selected the one fitting to within the specified accuracy. Hewlett- Packard did (and probably still does) calibrate its precision meters individually with a computer controlled scale drawing machine (it was done photographically in the past but might be handled by LASER printing today, or something of that sort.)
Just dividing a new scale into uniformly spaced arcs is likely to lead to some errors, though I will hazard no guess how big these will be. If I needed accuracy I would make a linear scale, mount it, and feed the meter accurate currents. Then make a corrected scale based on the readoff data. For crude indicators (S-meter, for example), it is not likely to be worth the bother.

Bob

4324. DON'T FRY THE KIDS! (Was: RF & materials)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: Rick Miller <rick@DigalogSys.com>
Message-ID: <Pine.LNX.3.91.960711080711.1765A-100000@net.digalogsys.com>
Source record: 104154
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

On Sun, 7 Jul 1996, Michael Spenuk - VA3SP wrote:

> Wonder if any of you have conducted experiments, or
> have come across papers on the interaction of EM waves
> at and near 1.2, 2.4, or 5.7 GHz, with materials?
>=20
> I am particularly interested in the following materials:
> plywood, wafer board and particle board of various
> thicknesses, and; asphalt shingles. I am interested
> in these materials with varying moisture content,
> and if anyone has studied particular adhesives used
> in these products.
>=20
> I am interested in the effects of these materials when
> located within the radiating near field of an array.

Hi Mike!

It looks as though you're wanting to come up with some sort of
microwave communications for house-to-house use which doesn't
come with unsightly dishes on masts. Maybe if you come out and
describe what you're really trying to do, you might get some more
specifically useful help.

In general though, you're going to have no fun at all trying
to pump microwave signals through a sloped roof.

Think about it for a bit...

Where does the part of the signal that doesn't make it through
the roof go? It gets reflected *DOWN*. This can generally be
regarded as A Bad Thing=AE, especially in the case of residential
structures.

Rick Miller

Raportisto demandis de Mahatma Gandhi, "Sr-o. Gandhi, kio vi pensas pri
Okcidenta Civilizacio?" Li respondis, "Mi pensas ke gxi estus bona ideo."

4325. Web site debut - DF Systems - Electronics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: k6hzt@dfsystems.com
Message-ID: <4s2l1v$41k@news.calweb.com>
Source record: 104155

Announcing the debut of DF Systems Web Site.
We are located in Sacramento, California and we specialize in Amateur Radio, Radio Direction Finding, Doppler DF, Surplus Electronics and Communications Equipment.

We are located at:
http://www.dfsystems.com

Come on by and check us out!

Stephen Douglas K6HZT
DF Systems
Radio Direction Finding
Electronic Surplus
k6hzt@dfsystems.com
http://www.dfsystems.com
P.O.Box 246925
Sacramento, CA 95824-6925

4326. Re: Q Injected Carrier Detection in Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: wb9mjn@uugate.wa7slg.ampr.ORG
Message-ID: <31508@uugate.wa7slg.ampr.org>
Source record: 104156

Hi Kent,

Thats an interesting idea. Certainly a PLL can be made with a narrow enuf lock range to lock onto the carrier. Here, the Q of the loop is in the low frequency loop filter.

But, that s not the real problem with the idea, which is, that the spectrum of the transmitter does not end at one sideband. And the residual signal in the opposite sideband would seriously compromise the reception of any signal.

For reception near the natural noise limit, the reciever must have less than 130 dBm noise floor, approximately. A transmitter operating at 1 mw, or 0 dBm needs to have 130 dBm noise output at the receive frequency. Being the oposite sideband, there really is no practical way, in the present technology, to attenuate 130 dB, the oposite sideband. Most SSB transmitters have oposite side band attenuation specs of around 40 , maybe 50 dB.

Additionally, SSB demodulation, by the filter, or phasing methods have similar oposite sideband rejection capabilities. This is possibly usable with a low capture ratio data demodulator, if the oposite sideband and desired sideband were equal levels. But, even without transmitter noise, the desired sideband (received sb) and the oposite side band (transmitted sb) are not equal. Say, u have a 20 dB capture ratio for 10e-6 BER, then the transmitted SB, could only be 20 dB stronger (for a total of 40 dB) than the received signal.

This technigue , with allot of work, might work for tens of yards, is my guess.

To get full duplex, which is a really desireable thing for data, one needs to do a dual banded technigue (with duplexing filters at RF), or time domain duplex (with enforced timeing) at double the data rate (and twice BW and Noise) .

BTW, a simplification of ur idea, would be to use quadrature DSB, rather than SSB. This would greatly simplify the modulators and demodulators. A Kostas loop would then be used for carrier recovery, and there would be no need to transmit carrier. Altho, resyncing periods of no transmitter modul-tion, would probably be needed.

73, Don wb9mjn%wb9mjn.ampr.org@uugate.aim.utah.edu

4327. FT-2200 Mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: Butch Magee <butch@apollo.wes.army.mil>
Message-ID: <31E51D66.2265@apollo.wes.army.mil>
Source record: 104157

Does anyone have, or know where to get, the mod/mods for the Yaesu FT-2200?

Butch KF5DE

4328. Re: Gerber file viewer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: stevem@best.com
Message-ID: <4s3ae0$riu@shellx.best.com>
Source record: 104158

In article <tcpnntpd.16.7.10.18.25.30.2443217854.3048192@hcol.humberc.on.ca>,
<hduff@hcol.humberc.on.ca> wrote:
>Can anyone knowledgeable in pc board CAD drawing point me to
>a decent shareware Gerber file viewer ?
>The one I have now is quite crude...it shows all lines as the same
>regardless of their thickness. The program is okay for checking
>general connectivity and placement but not so great with detail.
>I'd like to see if there is something better out there.
>I would consider commercial software too if the price is reasonable.
>
>(The schematic/pc board package I use shows multi-layers in x-ray
>perspective rather than mirrored images as you would see it by flipping
>the board. A gerber viewer really helps to see what the board will
>really look like from the plots.)
>
>Many thanks !
>
>Hugh Duff VA3TO Toronto
>
>
>
>---
> • NFX v1.3 [000]
>

The CAD package I use, Protel, has a built in Gerber viewer. I know there are some shareware viewers out there. You might try the Simtel archive (ftp: oak.oakland.edu) or posting your question to sci.electronics.cad. You might find some good answers there.

Good Luck

Steve Muther WF6R

4329. Re: Single Band HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: larsm@lin.foa.se
Message-ID: <4s2dot$ei0@mercur.foa.se>
Source record: 104159

Hi Jim
talking of rack mounted amps, last time I came across these were when
I reread my "Radio Handbook" by Bill Orr. It describes single band
amplifiers using 3-1000Z. Interesting stuff but the tube is bit too
expensive to go only on one band..... By the way it was in the latest
printing of this book.
73 Lasse SM5GLC
aa8xc@aol.com (AA8XC) wrote:

>Back in the 60's or 70's the ARRL Handbook had a series of single band
>rack mounted HF amplifiers which shared only a common power supply.

>If anyone remembers these and which issue(s) they were in I'd appreciate
>being reminded. I had the book at one time but must have gotten rid of it
>years ago.

>Thanks in advance for your help.

>73's Jim

4330. WTB: PSPICE for WIN/DOS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: dklass19@mail.idt.net
Message-ID: <4s3qhc$g3m@allinux2.alliance.net>
Source record: 104160

Would like to purchase used PSpice for Windows/DOS. Please E-mail
dklass@mail.idt.net

Thank you.

4331. Re: Single Band HF Amplifiers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul11.171446.17797@ke4zv.atl.ga.us>
Source record: 104161

In article <4s1tb0$crt@newsbf02.news.aol.com> w8jitom@aol.com (W8JI Tom) writes:
>In article <1996Jul10.152108.11609@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
>(Gary Coffman) writes:
>
>>I don't think much of the idea of switching filaments on with HV and
>>bias already present. 813s are tough old birds, but that's still abuse.
>>I'd consider a time delay relay in each RF deck that kept screen voltage
>>off the tubes until their filaments warmed up.
>
>Thoriated tunsten tubes do not require delay of voltage application. They
>are not subject to emission stripping of the cathode by excessive current
>for the temperature. They simply saturate, and no harm is done. A
>thoriated tunsten tube's circuit can actually be in the operating mode as
>the filament is turned on without harm to the tube.
>
>Only indirectly heated metal oxide cathode tubes like the 8877 require
>warm up delays. They are subject to emission deterioration if operated
>beyond current limits established by cathode temperature and cathode
>surface area.

Ok, good info.

>>The author doesn't mention this (I guess he assumed everyone would
>>realize it), but the meters are hot in this design. They need to be
>>behind a protective insulating barrier. The picture shows the meter
>>panel recessed behind a glass window, and you should take care to
>>duplicate this safety feature.
>
>Better yet, move the meters to a safe electrical location at the grounded
>side of the supply and protect the grounded supply rails from meter opens
>with diodes.

Yeah, but not easy to do with the circuit presented (four different
currents are metered, and the B+ voltage). With the multiple RF decks,
and the several different supplies, I think I'd rather have the supply
minuses connected hard to the rack chassis and put the meters behind a
glass barrier to avoid operator contact. That may be a bit more failsafe
than depending on clamping diodes.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4332. Re: Homebrew Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4s3km2$a0i@peabody.colorado.edu>
Source record: 104162

>Because it may not be too well known, I point out that the scales of meter
>movements are not very linear.

They also usually, irritatingly, depend on the angle of the face with respect to gravity. Unless the thing is perfectly balanced, which even fairly nice, commercial meters aren't, gravity pulls "down" on the needle, which results in low readings when the needle is less than half scale, and high readings when the needle is past half scale, and having a smoothly varying sine-like dependence of error on needle angle. Orienting the meter face-up so the movement is in the horizontal plane fixes this, but then if you rotate the meter to show face-forward, the error is WAY more than a needle-width. So those meters with nice skinny needles, lots of tick marks, and a mirror behind so you can line up your eye to avoid parallax - lay them on the floor and look down at them, or else trust that they have been gravity-cancelled and take your chances.

(Or use a DMM. Does making an A-to-D and a display driver count as homebrewing a meter?)

Bruce
N6URH

4333. Re: Tubes: Where To Buy ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: Jay123a <jay123a@gargamel.ptw.com>
Message-ID: <31e55539.0@mothra.westworld.com>
Source record: 104163

Hello Dave:

Thanks for the advice on the different filiment voltages and the source,
for the LQ6 type tubes.

Jay

4334. helical before or after GaAsFET in preamp ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: chrise@n0jcf.com
Message-ID: <4s3nd3$7a3@n0jcf.com>
Source record: 104164

I am interested in playing with some of these TOKO helical filters for 2m, 222 and 432 in conjuction with some GaAsFET preamps. I have a commercially built preamp (AMPIRE) that has the helical filter AFTER the GaAsFET... this seems cool since it probably doesn't contribute much to the noise figure this way... but I'm wondering what other tradeoffs there are to this method as opposed to putting the helical ahead of the GaAsFET. Putting it ahead would obviously add to the noise figure and put about 6dB of loss before the GaAsFET as well...

Where do guys like SSB Electronics put the helicals in their helically filtered preamps ?

Any comments greatly appreciated.

73, Chris
--
Chris Elmquist, N0JCF
chrise@n0jcf.com
n0jcf@amsat.org

4335. Re: Homebrew Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4s3q7v$3m5@newsbf02.news.aol.com>
Source record: 104165

In article <4s3km2$a0i@peabody.colorado.edu>, tiemann@spot.Colorado.EDU (TIEMANN BRUCE) writes:

>
>They also usually, irritatingly, depend on the angle of the face with
>respect to gravity. Unless the thing is perfectly balanced, which even
>fairly nice, commercial meters aren't, gravity pulls "down" on the needle,
>which results in low readings when the needle is less than half scale, and
>high readings when the needle is past half scale, and having a smoothly
>varying sine-like dependence of error on needle angle.

Test the meter this way....

Lay the pointer flat and zero it with the regulator (zero adjust).

Hold the meter so the pointer is vertical.

Hold the meter so the pointer is horizontal.

It the pointer remained on zero the movement is properly balanced.

If the meter isn't balanced, it was a crummy job or a cheap meter.

Precision meters are ALWAYS balanced (unless someone isn't doing their job) and free from gravity induced errors. They are balanced by sliding little coiled weights in and out (they are at 90, 180, and 270 degrees in reference to the pointer), and using temperature reflowable glue to retain them in place. Fine tuning is done by tweeking the angle of the weights just slightly or adding a tiny dot of glue.

This error also is reduced by increasing meter torque. Assuming all the resistance is in the moving coil, a 1 mA 1000 ohm meter is much less sensitive to balance than a 50 uA 50 ohm meter. With high torque meters, balancing is much less critical.

More important than any of this are effects of a steel panel. Be sure the meter is used in the type of environment it was specified to be used in.

73 Tom

4336. Re: helical before or after GaAsFET in preamp ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: stevem@best.com
Message-ID: <4s3shk$hj7@shellx.best.com>
Source record: 104166

In article <4s3nd3$7a3@n0jcf.com>, Chris Elmquist <chrise@n0jcf.com> wrote:
>I am interested in playing with some of these TOKO helical
>filters for 2m, 222 and 432 in conjuction with some GaAsFET
>preamps. I have a commercially built preamp (AMPIRE) that
>has the helical filter AFTER the GaAsFET... this seems cool
>since it probably doesn't contribute much to the noise figure
>this way... but I'm wondering what other tradeoffs there are
>to this method as opposed to putting the helical ahead of the
>GaAsFET. Putting it ahead would obviously add to the noise
>figure and put about 6dB of loss before the GaAsFET as well...
>
>Where do guys like SSB Electronics put the helicals in their
>helically filtered preamps ?
>
>Any comments greatly appreciated.
>
>73, Chris
>--
>Chris Elmquist, N0JCF
>chrise@n0jcf.com
>n0jcf@amsat.org

The tradeoff involves understanding the kind of RF environment
you are in. If you have strong out of band signals that could
potentially saturate your preamp or RX, you would be better off
putting the filter before the preamp, assuming its response
rejected the unwanted signals. In that case you would have to
live with the loss.

If you are interested in the absolute maximum sensitivity and
lowest noise, than putting the filter after the preamp is the
best choice but understanding the possibility of overload.
Fortunatly, most GaAs preamps have a farily high input saturation
level and a high P1dB of around +5dBm or more.

The Toko filters you mention are rather high loss. They are
best suited for use between stages rather than up front. For
any front end filter, you might consider home brew interdigital
or cavity types.

Steve M.

4337. Re: Q: Injected Carrier Detection in Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <NKMSbJAySJ5xEwlh@briano.demon.co.uk>
Source record: 104167

In article <4rv36u$s12@news3.realtime.net>, Kent Farnsworth
<akent@bga.com> writes
>I am relatively new to analog, so please bare with any ignorance
>herein.
>
>

-hello
as i read it you are transmitting residual carrier ssb if this is so
then why not try pushing the received signal through a limiting amplifier
as in an fm receiver this should strip off the ssb data and leave the nominal
carrier to use as a locking ref. obviously the data will travel by propagation
a lot further than the residual carrier, for long distance and fade conditions
you could use a slow response pll tuned by sending a locking burst interleaved
between blocks of data and this way you could do away with the residual
carrier
(it works well for colour tv"pal" i don't know about
Never Twice the Same Colour)
-
Brian Olliver G8DQQ May i appologies for being english but i didn't
have a choice

4338. Re: 900 Mhz boost?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <LqnTjPAcVJ5xEwGk@briano.demon.co.uk>
Source record: 104168

In article <4s12rk$hj4@peru.it.earthlink.net>, Kristen Maaherra
<colinm@earthlink.net> writes
>I live ruraly, and if I could get my 900Mhz phone to go a little farther would
>have internet access!!!!! Any pro's out there give me some advice on 900 Mhz
>antenna design or bower boost?
>
>Thanks,
>You can e-mail me 'ram@indra.com' of reply here...

--hello
yagi's are pretty easy to construct at this freq and if you know where your
local phone mast is then just squirt it in that direction

Brian Olliver G8DQQ May i appologies for being english but i didn't
have a choice

4339. Is HAM Radio Really Dying ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: Hiatt <hiatt@flash.net>
Message-ID: <31E52C35.3C65@flash.net>
Source record: 104169
Cross-posted to: rec.radio.amateur.packet,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Now, no one chatize me for this, ...

BUT ....

If you've seen (or about to see) Independence Day (the Movie) HAM Radio & CW seem to save the day. After all other forms of communications have failed or are unreliable, the message seems to get around the country that the U.S. has a plan that might save the planet.

Unrealistic .... the fact that we'd be able to fend off an interstellar attack.

Realistic .... the fact that HAM radio might be useful IF all forms of communications do fail.

Just the fact that HAM Radio is EVEN mentioned in a movie is very pleasing to me !!! Let alone save the world !!! To think, someone actually knows that it exists.

Of course, if we had these local and DX bands taken from us, it woudn't do much good. Don't totally compare this to the movie though. Use your imagination in what could happen (i.e. earthquake, tropical storm, tornado, war ?!?) More than likely, ARS operators are capable and willing to help there country (maybe world, depending on the situation) when all other ways of communicating are down.

Sean Hiatt, kc5nfd

4340. Re: Glue for base of tubes..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: Jim_Moore@usenetbbs.ucs.csufresno.edu
Message-ID: <7945364.ensmtp@usenetbbs.ucs.csufresno.edu>
Source record: 104170

You will have trouble with epoxy in the tube environment. Just look at any of those old television sets that tried to put tube sockets directly on pc boards. The major problem is heat. Tubes, a.k.a. themionic emitting devices, operate at substantially elevated temperatures. I think that you will find that epoxy is not much good over 200 degrees.

I am sorry that I can't make any recommendations for bonding products that have high temperature and high dialectric properties.

Maybe a tube manufacturer might have a suggestions.

Good luck. Jim

4341. WTB: New UHF tuners

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-11 00:00:00 UTC
From: hjohnson@pluto.njcc.com
Message-ID: <yhKvnuoWWVQ4079yn@pluto.njcc.com>
Source record: 104171

Some colleagues of mine are interested in building a *lot* of radio astronomy antenna/recievers for use in the TV UHF region, using TV UHF tuners that can be remotely tuned. Yeah, yeah, I know the technical issues - this is just a request for WHERE they might get a bunch of these, say tens or so at a time, at what cost. Yes, they can strip them out of TV's but they'ed all be different, and not very current in some cases (assuming current=better!). So what is a commercial source for small quantities of these, with some hope of consistancy, and at what price?

I would also appreciate some useful reference book or manufacturer's publication that discusses the technical merits of these tuners. Most articles get dated on this subject. I know the short version, about noise issues and so on - I'm looking for a current and deeper treatment.

Thanks! BTW, I've had a lot of help on some related projects via this maillist, so I appreciate this resource.

Herbert R. Johnson voice/FAX 609-771-1503 day/nite
hjohnson@pluto.njcc.com Ewing, NJ (near Princeton) USA

occasional amateur astronomer at odd frequencies and hours
and senior engineer at Astro Imaging Systems: old photons to new bits!

4342. Re: helical before or after GaAsFET in preamp ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul12.141249.21668@ke4zv.atl.ga.us>
Source record: 104031

In article <4s3nd3$7a3@n0jcf.com> chrise@n0jcf.com (Chris Elmquist) writes:
>I am interested in playing with some of these TOKO helical
>filters for 2m, 222 and 432 in conjuction with some GaAsFET
>preamps. I have a commercially built preamp (AMPIRE) that
>has the helical filter AFTER the GaAsFET... this seems cool
>since it probably doesn't contribute much to the noise figure
>this way... but I'm wondering what other tradeoffs there are
>to this method as opposed to putting the helical ahead of the
>GaAsFET. Putting it ahead would obviously add to the noise
>figure and put about 6dB of loss before the GaAsFET as well...
>
>Where do guys like SSB Electronics put the helicals in their
>helically filtered preamps ?
>
>Any comments greatly appreciated.

There are basically two reasons to use preselection filtering.
The first is to suppress images in the first mixer, and the
second is to protect the first RF stage from overload caused
by out of band signals. In the first case, the filter can go
in front of or follow the first RF stage, in the second case,
the filter must go in front of the first RF stage.

Assuming the latter is the primary reason for the preselection
filter, to minimize noise figure degradation, a filter with a low
insertion loss would be used. The Toko helicals have a relatively
high insertion loss, so they are a poor choice to go in front of
the preamp. There are helicals with lower insertion loss, and
there are interdigital and cavity filters with even less insertion
loss. These would be preferred as front end preselection filters
to protect from front end overload.

The SSB Electronics preamps put their (low insertion loss) helicals
in front of the GASFET. Most receivers which include helical
preselection filters also put them before the first RF stage.
Examples are GE and Motorola commercial two-way equipment such
as the Mastr II and the Micor.

If the first RF stage active device has a very high IP3, you can
get away with putting the filter after the preamp. About the only
reason you'd want to put a helical here is if the first IF is a
relatively low frequency so that image suppression requires a
fairly steep filter response. Otherwise you'd use a simpler,
and lower loss, filter (typically serving as part of the matching
network of the active device).

One way to get a high IP3 is to bias the active device to have a high standing current. CATV trunk amplifier transistors are often used for this, with a standing current of 100 mA or more. The typical GASFET chosen for a low noise preamp can't handle standing currents in this range, but power GASFETs have recently declined in price and have been used in this way. In one of the _Microwave Update_ conference proceedings is an article on this topic.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4343. FS: HP 1740A 100Mhz Oscilloscope

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: Dan Ellefson <sl3jj@cc.usu.edu>
Message-ID: <31E6C0F7.1C50@cc.usu.edu>
Source record: 104032

FOR SALE: HEWLETT PACKARD 1740A ANALOG 100Mhz OSCILLOSCOPE

The unit is a two channel 100 Mhz oscilloscope with two external triggers.
It comes with two HP X10 probes that came with the scope and two B&K X10/X1 probes
that I bought brand new. All the probes are rated at 100 Mhz. The scope is capable
of deflection factors from 1 mV/div to 20 V/div on the vertical scale and 5 ns/div to
20 s/div on the horizontal scale. The scope also has a delayed sweep feature which is
set by a precision control knob which allows delay settings of 50 ns to 20 s. Other
features of the 1740A include simultanous display of both input channels and the trigger,
bandwidth limit control for attenuation of signals above 20 Mhz, plotting channel A vs B,
choice of 50 Ohm or 1 Megohm input impedance, Chop mode, Alt mode, A+B display, channel
B inversion (this allows A-B display), trigger selction of channel A, B, or external,
trigger level control,LF and HF reject on external trigger inputs, AC, DC, Internal and
External triggering, External /10 triggering, and many more features.
Documentation for the scope is included and consists of the 1740A Operator's Guide
and the 1740A Operating and Service Manual with includes detailed schematics of the scope's
internal circuitry.
The scope comes with a soft leather pouch with a velcro closure that is attached
to the top of the unit allowing storage of manuals and probes. A hard plastic cover is
also included that fits snugly over the front face of the scope to protect the controls
and CRT.
The scope is in very good condition with no noticable dents or scratches. I've had
the scope for quite some time and have been very pleased with its performance and the great
many features that come with it. The reason that I am parting with it is because I recently
purchased a brand new $4500 scope (ouch....) and have no need for two scopes.

PRICE: $450 (buyer pays for shipping)

Contact Dan at (801) 787-4374 or EMail me at sl3jj@cc.usu.edu

4344. Re: Glue for base of tubes..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: pfzouave@aol.com
Message-ID: <4s6eo0$4s6@newsbf02.news.aol.com>
Source record: 104033

What about Red RTV silicone (automotive). Seems to me, I remember reading that it was good up to several hundred degrees. I used it, some time back, to seal fittings on a smoke machine (used for theatrical purposes).

The smoke machine vaporized a scented light-oil-based theatrical smoke liquid. The temperatures were quite high, and I dont recall every having a problem with that adhesive.

/===/
/ PFZouave@aol.com
/
/ The absurdity of a claim is not a valid measure of its probability
/
/===/

4345. AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4s6rit$qlc@globe.indirect.com>
Source record: 104034

Here's a notion I had a long time ago and haven't gotten around to trying...

AM Modulation transformers are really rough to find these days, but the thriving tube audio business provides audio output transformers to match nearly any tube output impedence to an 8-ohm load, at almost any power level you'd care to try.

Now...turn that around: Could we generate audio power with one of these solid state audio amp modules (say 20-50 watts) and pipe the audio into the 8-ohm side of one of those output transformers, and then use the other side as the modulating output in series with the plate of a Class C tube final like a 6146B?

Every solid-state audio power amp IC or module I've seen works into either 4 or 8 ohms. I can't see why we couldn't use an output transformer "backwards" to generate audio power at the impedence a tube final like a 6146 or 811A would like.

I LOVE the audio quality of plate-modulated AM, and this would imply an easy way to make a good quality 50-100W AM transmitter without having to grub for a used modulation transformer.

Has anybody tried this? Are there any nonobvious gotchas I haven't thought of yet?

Do let us know.

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

4346. Re: Gerber file viewer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: "Douglas L. Datwyler" <datwyler@mail.aros.net>
Message-ID: <31E6C97B.5796@mail.aros.net>
Source record: 104035

hduff@hcol.humberc.on.ca wrote:
>
> Can anyone knowledgeable in pc board CAD drawing point me to
> a decent shareware Gerber file viewer ?
> The one I have now is quite crude...it shows all lines as the same
> regardless of their thickness. The program is okay for checking
> general connectivity and placement but not so great with detail.
> I'd like to see if there is something better out there.
> I would consider commercial software too if the price is reasonable.
>
> (The schematic/pc board package I use shows multi-layers in x-ray
> perspective rather than mirrored images as you would see it by flipping
> the board. A gerber viewer really helps to see what the board will
> really look like from the plots.)
>
> Many thanks !
>
> Hugh Duff VA3TO Toronto
>
> ---
> ï¿½ NFX v1.3 [000]

Find a copy of GCPREVUE. The version I use is DOS based, but does a
decent job after you get used to it.

Douglas L. Datwyler WR7O
datwyler@aros.net

4347. Re: Gerber file viewer ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: "Douglas L. Datwyler" <datwyler@mail.aros.net>
Message-ID: <31E6C99A.73A4@mail.aros.net>
Source record: 104036

hduff@hcol.humberc.on.ca wrote:
>
> Can anyone knowledgeable in pc board CAD drawing point me to
> a decent shareware Gerber file viewer ?
> The one I have now is quite crude...it shows all lines as the same
> regardless of their thickness. The program is okay for checking
> general connectivity and placement but not so great with detail.
> I'd like to see if there is something better out there.
> I would consider commercial software too if the price is reasonable.
>
> (The schematic/pc board package I use shows multi-layers in x-ray
> perspective rather than mirrored images as you would see it by flipping
> the board. A gerber viewer really helps to see what the board will
> really look like from the plots.)
>
> Many thanks !
>
> Hugh Duff VA3TO Toronto
>
> ---
> ï¿½ NFX v1.3 [000]

Find a copy of GCPREVUE. The version I use is DOS based, but does a
decent job after you get used to it.

Douglas L. Datwyler WR7O
datwyler@aros.net

4348. Re: Is HAM Radio Really Dying ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: dnorris@k7no.com
Message-ID: <31e65b88.1201455@news.syspac.com>
Source record: 104037
Cross-posted to: rec.radio.amateur.packet,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Cecil Moore <w6rca@worldnet.att.net> wrote:

>Hiatt <hiatt@flash.net> wrote:
>>Just the fact that HAM Radio is EVEN mentioned in a movie is very
>>pleasing to me !!! Let alone save the world !!! To think, someone
>>actually knows that it exists.
>
>Ham radio is probably one of the things standing in the way of
>the New World Order. Think the New World Order is going to let
>us communicate freely world-wide? Dream on.
>
>73, Cecil, W6RCA, OOTC
>
>

Hey Cecil, That noise you hear out your window is a black helicopter. Careful, they are coming to take us away, away..hoo hoo haa haa hee hee

;)

4349. Re: Is HAM Radio Really Dying ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: Cecil Moore <w6rca@worldnet.att.net>
Message-ID: <4s4k3g$m6a@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 104172
Cross-posted to: rec.radio.amateur.packet,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hiatt <hiatt@flash.net> wrote:
>Just the fact that HAM Radio is EVEN mentioned in a movie is very
>pleasing to me !!! Let alone save the world !!! To think, someone
>actually knows that it exists.

Ham radio is probably one of the things standing in the way of
the New World Order. Think the New World Order is going to let
us communicate freely world-wide? Dream on.

73, Cecil, W6RCA, OOTC

4350. Re: helical before or after GaAsFET in preamp ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <31E6006C.5D1F@rcru.rl.ac.uk>
Source record: 104173

Chris Elmquist wrote:
>
Snip.. Stuff about VHF pre-amps
>
> Where do guys like SSB Electronics put the helicals in their
> helically filtered preamps ?
>

After, always. There is no point in marketing a pre-amp with
a 6dB noise figure. You can make lower loss filters, but usually
the effect on the noise figure is too much. The input is mostly
a capacitor and and inductor matching circuit.

An exception are PMR radios, where a bomb proof front end and
an 8 dB noise figure is more impotant than a 2dB noise figure
radio that won't receiver anywhere near a transmitter.

With clever design yeilding a high intercept point and a high
Q input circuit plus a helical or stripline filter after the
GaAsFET you can make an LNA good enough for amateur use.

Mike

4351. Re: helical before or after GaAsFET in preamp ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: moritz@ipers1.e-technik.uni-stuttgart.de
Message-ID: <4s50ne$r32@info4.rus.uni-stuttgart.de>
Source record: 104174

In article <4s3nd3$7a3@n0jcf.com>, Chris Elmquist <chrise@n0jcf.com> wrote:
>I am interested in playing with some of these TOKO helical
>filters for 2m, 222 and 432 in conjuction with some GaAsFET
>preamps.

As you mention the helical filters have a substantial insertion loss.
Putting one ahead of the preamp will render ther receiver completely
deaf. They are designed to have very good out-of-band attenuation
and will be usefull, if put *after* a stage with sufficient gain.
Normally the first transistor is not overloaded by out-of-band
signals, the antenna and the matching circuit will provide enough
selectivity. I have however seen a 1296 preamp with a high pass filter
added in the front, to stop TV signals. This is however specially
designed to have no more than .1 dB attenuation. Incidentally, modern
designs use high power gasfets, which are well suited to handling high
signal levels.

73, Moritz DL5UH

4352. Re: Homebrew Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4s54sp$kck@newsbf02.news.aol.com>
Source record: 104175

Hi Bob,

I used to be Engineering Manager at a company that made meters (among other things).

In article <96193.094914IFF161@DJUKFA11.BITNET>, Bob Mueller <IFF161@DJUKFA11.BITNET> writes:
>
>Because it may not be too well known, I point out that the scales of meter
>movements are not very linear.

I wonder waht type of accuracy your are reffering to? We manufactured meters that were within 1% at full scale and half when calibrated at 3/4 scale. At 3/4 scale they were dead on at room temperature.

Let's assume we have a conventional 1% FS meter reading 1000 uA (one mA). The net error at any point of the scale would be less than 10 uA. If pickets were placed every degree on a 100 degree movement, the maximum error would be one picket anywhere on the face of the meter. If the scale arc was three inches long, the pickets would be around .03 inches apart. If the pointer of the meter was .05 inches from the scale, parallax would be a bigger problem than metering error.

>The scales of good movements are individually
>matched or drawn. I know of one important manufacturer that had several
>versions of scales already printed and selected the one fitting to within
>the
>specified accuracy. Hewlett- Packard did (and probably still does)
>calibrate its precision meters individually with a computer controlled scale
>drawing machine (it was done photographically in the past but might be
>handled
>by LASER printing today, or something of that sort.)

We only did that if the scale was a large mirrored scale. Without a very large mirrored scale, errors caused by the person's method of reading the scale dominated the error. Perhaps HP was compensating for circuit variations (such as non-linearity in a RF detector) rater than actual meter variations? If it was actual meter variations, the meter manufacturer would be the one changing the scale, not H-P.

We did that in 7 inch mirrored scale 1/2 percent meters.

> Just dividing a new scale into uniformly spaced arcs is likely to lead

>to
>some errors, though I will hazard no guess how big these will be. If I
>needed
>accuracy I would make a linear scale, mount it, and feed the meter
accurate
>currents.

That's very true. The characteristics of the movement vary with the construction of the "magnetic window" surrounding the motor coil. While good quality movements track very closely from meter to meter in production, you shouldn't do a scale on a movement you've never plotted before by measuring FS and dividing the scale into equal divisions.

1% of FS is easy to do in production without custom selecting each scale, and 1/2 percent is possible. Scales less than 1/2 percent require either custom plotting or tight control of components that control the flux density in the area of the motor. A 1/2 percent meter requires many hundreds of pickets and a large mirrored scale to be useful, the error would be a maximum of 5 microamperes on a 1000 uA (1 mA) meter WITHOUT using a custom scale for each movement.

73 Tom

4353. Re: Why difficult to generate high power a

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jul12.104906.56007@ucl.ac.uk>
Source record: 104176

In article eN5EKAAiLM4xEweQ@briano.demon.co.uk, Brian Olliver <briano@briano.demon.co.uk> writes:
> In article <4rkmm6$dq7@crash.microserve.net>, gudmundur
> <dcowey@cyberia.com> writes
> >In article <4rg6p0$hbd@server2.codetel.net.do>, w.meara@codetel.net.do
> >says...
> >>
> >>Here's a question that has been bothering me for a long time:
> >>
> >>Why is it that it becomes more difficult to generate RF power as we
> >>increase frequency? Why do HF transceivers often have more power out
> >on
> >>80 meters than they do on 10? Why is it so difficult to get lots of
> >>power out in the VHF and UHF ranges?
> >>
> >>TIA 73 Bill N2CQR/HI8
I have seen many responses to this, and agree with most. I would add that that one can derrive a rule that says P f^2 R = constant.

where P=power, f=frequency, and R = output resistance.

So going up in frequency by a factor of 10, reduces your output by a factor of 100. I've seen graphs of power vs frequency, and this seems to follow over many orders of magnitude.

I can't recall the exact derrivation of this, but if anyone is interested, I have it somewhere.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

4354. Re: WTB: New UHF tuners

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: gcouger@tacoma.ceatlabs.okstate.edu
Message-ID: <4s5k0s$gv4@news.cis.okstate.edu>
Source record: 104177

Fair Radio has them for $5 I think.
Gordon AB5DG

In article <yhKvnuoWWVQ4079yn@pluto.njcc.com>,
Herbert R Johnson <hjohnson@pluto.njcc.com> wrote:
>Some colleagues of mine are interested in building a *lot* of radio
>astronomy antenna/recievers for use in the TV UHF region, using TV UHF
>tuners that can be remotely tuned. Yeah, yeah, I know the technical
>issues - this is just a request for WHERE they might get a bunch of

4355. Re: Recommendations for mircrostripline design software packages?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: kochen@ami1.bwi.wec.com
Message-ID: <kochen.584.837189955@ami1.bwi.wec.com>
Source record: 104178
Cross-posted to: alt.eletronics.manufacture.circuitboard,alt.engineering.electrical,sci.electronics.design,sci.electronics.cad,sci.electronnics.misc,rec.radio.amateur.homebrew

In article <DuB6vB.9Av@iquest.net> n9xlt@holli.com (David A. Wallace) writes:

>Does anyone have any recommendations for software used in designing
>microstripline circuit boards? Urls, catologues, packages, etc... Any
>information would be greatly appriciated.
> N9XLT (David A. Wallace)
> n9xlt@holli.com
> Kokomo, In.

Any answer depends greatly on:
1) Exactly what do you want to do?
Do you want both electrical analysis/synthesis or simply
some sort of artwork layout package?

2) How much money are you willing to spend?
You can find something for any budget:
0 - $100 Look for demo's, Freeware, shareware.
Adapt general drawing programs to generate artwork

$100 - $1K Look for shareware for electronic analysis.
Use low-end CAD or PC board layout software.

$1K - $10K Touchstone, Eagleware, Super-Compact, etc for analysis
Lots of PC board Layout software and CAD.

$10K - ? You have that much money and don't know what to do
with it??!! :-)
. . . . . .
Don Kochen kochen@ami1.bwi.wec.com
Northrop Grumman Corporation
Electronic Sensors and Systems Division Baltimore, MD
Analog System Design (410) 765-3268
. . . . . .

4356. Re: WTB: New UHF tuners

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-12 00:00:00 UTC
From: rkarlqu@scd.hp.com
Message-ID: <4s5vg1$pst@hpscit.sc.hp.com>
Source record: 104179

In article <yhKvnuoWWVQ4079yn@pluto.njcc.com>,
Herbert R Johnson <hjohnson@pluto.njcc.com> wrote:
>Some colleagues of mine are interested in building a *lot* of radio
>astronomy antenna/recievers for use in the TV UHF region, using TV UHF
>tuners that can be remotely tuned. Yeah, yeah, I know the technical
>issues - this is just a request for WHERE they might get a bunch of
>these, say tens or so at a time, at what cost. Yes, they can strip them

A good source for these might be Sharp. They might be able to
sell in quantities as small as 1000 or even 500, if its identical
to something they're already making. If you want to open them up
and modify them for non TV frequencies, however, you will have to
do some arm twisting to get internal schematics. In small
quantities, they might charge $25 to $50.

Another idea is to look through jobber catalogs like MCM
Electronics in Ohio. The catch there is that you have to buy
all the tuners you ever need at once if you want to be sure that
they will be identical.

Rick N6RK

4357. F.S.,TRADE or WTD-INTEL microcontroller development tools

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: jstrupat@icis.on.ca
Message-ID: <4s6n22$6rq@icarus.lon.hookup.net>
Source record: 104038

I have INTEL In Circuit Emulators for the 8051 and the 80196 families
for sale. Both are missing a key component, the Target Interface
Board, that has the bond-out version of the respective micro.
I have all the original software for the 196 unit and the matching
power supplies
I would like to sell these units or trade them for something of
interest in the microcontroller area.

Alternatively, if you have a TIB for one of these products , I would
be interested in purchasing one.

Please email any info or comments, or an offer to purchase or trade!

John Strupat
Strupat Design Services
London Ontario CANADA
jstrupat@icis.on.ca

4358. Re: Is HAM Radio Really Dying ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: jjmartin@shore.net
Message-ID: <4s6th1$l33@shore.shore.net>
Source record: 104039
Cross-posted to: rec.radio.amateur.packet,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Ham Radio is not dead.....yet! The FCC, et al, just pulled the
handle and flushed....it's swirling around right now. With the right
plunger we can save it before that gushing sound of finality...

==========
cheers! Jim Martin, wk1v
Lowell, Mass, U.S.A.
http://www.shore.net/~jjmartin/jjm.htm

4359. 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: adkinsg@piranha.ianet.net
Message-ID: <4s7cao$deo@piranha.ianet.net>
Source record: 104040
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hi!

I recently found a 24VDC power supply in my garage that
came from an old monitor. I think I'm going to use it
to power a cheap little radio for base station use. (It's
a mobile radio, btw)

I'm thinking along the lines of using one of the TO-220 case
voltage regulator (maybe adding some big caps for ripple)
to bring the 24V down to 12 or 15 volts. My concern is that
12V may not be sufficient for full power transmit since the
radio expects 13.8. (The radio only pulls 1.5A at max
modulation, so it doesn't need a ton of juice)

There is a very common 15v regulator available, would that
be too far above the 13.8? I'm not aware of any 13.8v
parts.

Any help much appriciated!

--

It is dangerous to be right when the government is wrong.
--Voltaire

Garry Adkins adkinsg@ianet.net
USnail: 712 Chestnut St. BELLNet: +1-304-453-5757
Kenova, WV 25530-1511

4360. Re: Toshiba 2SC3810

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: rossarcher@earthlink.net
Message-ID: <4s7kp0$lnu@paraguay.it.earthlink.net>
Source record: 104041
Cross-posted to: sci.electronics.components,rec.radio.amateur.homebrew

NTE2328 is a direct substitute. NTE makes a range of replacement
components. Their searchable cross-reference directory is at URL
http://www.nteinc.com
Give it a visit, or
Contact: NTE Electronics, Inc.
Bloomfield, NJ 07003
USA

==========

sansoni@mbox.vol.it (Guido Sansoni) wrote:

>sansoni@mbox.vol.it (Guido Sansoni) wrote:

>>Hallo,
>>there is someone who can tell me an equivalent of 2SC3810 NPN
>>transistor made by Toshiba?
>>It is a final of three mounted on a power supply 13,8 volts 30 A
>>(Daiwa model PS30Xm II)
>>Many tanks

>Sorry Sorry Sorry :-)
>The transistor is 2SC3281 NOT 2SC3810.
>Please help...
>Thank You.
> Guido

4361. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul13.080226.26905@ke4zv.atl.ga.us>
Source record: 104042
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4s7cao$deo@piranha.ianet.net> adkinsg@piranha.ianet.net (Garry P. Adkins) writes:
>Hi!
>I recently found a 24VDC power supply in my garage that
>came from an old monitor. I think I'm going to use it
>to power a cheap little radio for base station use. (It's
>a mobile radio, btw)
>
>I'm thinking along the lines of using one of the TO-220 case
>voltage regulator (maybe adding some big caps for ripple)
>to bring the 24V down to 12 or 15 volts. My concern is that
>12V may not be sufficient for full power transmit since the
>radio expects 13.8. (The radio only pulls 1.5A at max
>modulation, so it doesn't need a ton of juice)
>
>There is a very common 15v regulator available, would that
>be too far above the 13.8? I'm not aware of any 13.8v
>parts.
>
>Any help much appriciated!

You can raise the voltage of the common 12 volt three terminal regulators (7812, LM340, etc) by putting diodes in series with the common terminal to chassis (note that you have to use an insulated mounting for the tab, IE a mica washer). 3 diodes will increase the voltage by 1.8 volts (0.6 volts per diode drop).

Note that the regulator will have to drop 10.2 volts to get from 24 to 13.8 volts. At 1.5 amps, that's about 16 watts. Heatsink it very well. A TO-3 cased regulator might be a better choice (again use a mounting kit, you can't ground the case). The added diodes need to be rated for the current as well.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4362. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: ka1jy@usa.nai.net
Message-ID: <31e77060.1236466@a3bsrv.nai.net>
Source record: 104043
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On 13 Jul 1996 01:31:04 -0400, adkinsg@piranha.ianet.net (Garry P. Adkins) wrote:

>I recently found a 24VDC power supply in my garage that
>came from an old monitor. I think I'm going to use it
>to power a cheap little radio for base station use. (It's
>a mobile radio, btw)
>
>I'm thinking along the lines of using one of the TO-220 case
>voltage regulator (maybe adding some big caps for ripple)
>to bring the 24V down to 12 or 15 volts. My concern is that
>12V may not be sufficient for full power transmit since the
>radio expects 13.8. (The radio only pulls 1.5A at max
>modulation, so it doesn't need a ton of juice)
>

Hmm, let's see. 24 VDC on the source, 1.5 amps, and 15 vdc out, and a to-220 case egh? I'd start saving for a nice service manual on that radio if i were you. When that regulator blows from the 14 watts you attempted to dissipate it may fail shorted and put 24 volts into your mobile. Either that or plan on some pretty fancy cooling system for that puppy, it's going to get screaming warm.

Take a look at the junction to case thermal resistance of the regulator you are planning on using and do a few simple calculations before you put this thing together.

-be

4363. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: Andrew Marshall <andrew@g8bur.demon.co.uk>
Message-ID: <Qm$oiBAil45xEwVO@g8bur.demon.co.uk>
Source record: 104044
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4s7cao$deo@piranha.ianet.net>, "Garry P. Adkins"
<adkinsg@piranha.ianet.net> writes
>Hi!
>
>I recently found a 24VDC power supply in my garage that
>came from an old monitor. I think I'm going to use it
>to power a cheap little radio for base station use. (It's
>a mobile radio, btw)
>
>I'm thinking along the lines of using one of the TO-220 case
>voltage regulator (maybe adding some big caps for ripple)
>to bring the 24V down to 12 or 15 volts. My concern is that
>12V may not be sufficient for full power transmit since the
>radio expects 13.8. (The radio only pulls 1.5A at max
>modulation, so it doesn't need a ton of juice)
>
>There is a very common 15v regulator available, would that
>be too far above the 13.8? I'm not aware of any 13.8v
>parts.
>
>Any help much appriciated!
>
>--
>---
>It is dangerous to be right when the government is wrong.
> --Voltaire
>---
>Garry Adkins adkinsg@ianet.net
>USnail: 712 Chestnut St. BELLNet: +1-304-453-5757
> Kenova, WV 25530-1511
Garry,

The LM338K variable voltage regulator (5A) should be OK for this
purpose; two resistors set the voltage for you. I use these to make
13.8v gel battery chargers and they work fine. BTW I float 12v batteries
across all my 13.8v supplies as a protection against regulator failure.
Makes a great UPS too! Don't forget the reverse connected diode across
the top of the regulator if you use it for battery charging - if the
device gets volts on its o/p with none on its i/p, like when the mains
fails, it blows. If you'd like the circuit I use, I'll snailmail it to
you.

73, Andrew G8BUR
--

Andrew Marshall
andrew@g8bur.demon.co.uk

4364. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: jeffa@ix.netcom.com
Message-ID: <4s82i3$l3t@dfw-ixnews3.ix.netcom.com>
Source record: 104045
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <31e77060.1236466@a3bsrv.nai.net> ka1jy@usa.nai.net (Brian
Ellsworth) writes:
>
>On 13 Jul 1996 01:31:04 -0400, adkinsg@piranha.ianet.net (Garry P.
Adkins)
>wrote:
>
>>I recently found a 24VDC power supply in my garage that
>>came from an old monitor. I think I'm going to use it
>>to power a cheap little radio for base station use. (It's
>>a mobile radio, btw)
>>
>>I'm thinking along the lines of using one of the TO-220 case
>>voltage regulator (maybe adding some big caps for ripple)
>>to bring the 24V down to 12 or 15 volts.
>
>Hmm, let's see. 24 VDC on the source, 1.5 amps, and 15 vdc out, and a
to-220
>case egh? I'd start saving for a nice service manual on that radio if
i were
>you. When that regulator blows from the 14 watts you attempted to
dissipate it
>may fail shorted and put 24 volts into your mobile. Either that or
plan on some
>pretty fancy cooling system for that puppy, it's going to get
screaming warm.

Include a dropping resistor between the supply and the regulator to
minimize the voltage drop (and subsequent power dissipation) across the
regulator.

- Jeff, WA6AHL

4365. Stuff for sale or trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: cw thomas <cwthomas@pop.erols.com>
Message-ID: <31E7BD86.47BF@pop.erols.com>
Source record: 104046

HI;

Thanks for reading this.

I have the following stuff for sale or trade. I'm interested in mackine
tools dial meters calipers milling stuff or lathe accessories OR
blacksmithing stuff not to mention electronics stuff.If it says it works,
it works and I'll replace or refund your money at my option should you
have any problems with it. However, please don't buy something and
then decide you don't need or want it and expect me to take it
back. Also If something says 'cond unknown' that means I don't
know if it works or not. and I won't guarantee it. Its as is.
If the price says quan for x dollars that means I will not sell them
in single quantities. (I'm lazy).
Alot of these boards are pulls from a big computer place out here
that went belly up. From the stuff I've pulled out and tested,
it appears that they went out of business because they were
throwing away good cards.

CV89/Ura8a teletype decoder covers shift from 10 to 1000 hz.
freq from 595 to 1785 or external tone. in grey rack mount case
5x22x16 20 lbs works no docs 50.00

GC Electronics Forward/reflected power meter/SWR meter Black crinkle
finish has 2 meters, one power the other swr has 2 power settings
0 to 10 watts and 0 to 100 watts good up to 150 Mhz. Works has
cracked meter glass.....15.00

Ikegami Monochrome camera works has no lens comes with pwr supply.25.00

Giger counter mfg by victoreen instruments. runs off d cells. yellow
color weighs about a pound works.....30.00

Micronics 486 system board Eisa 3 system board 8 slot,accepts
80486sx,dx,dx2 comes with Cache srams, DOcs and CPU
Condition Unknown.....35.00

80486 sys board 8 slot comes w/cache srams,No docs/CPU Cond. Unk..20.00

486 SYS board no docs jumpers function marked on board to set CPU
speed etc. Comes w/ Cache sram, And docs No CPU..Cond. Unk...35.00

486 sys board No docs, No cache has PCI slots, No cache srams
No CPU.Cond. Unk.....25.00

80386-33 Mhz mother board works with docs..... 35.00

80386-40 Mhz nother board works with Docs..... 40.00

1.44 Floppy w/ PCMCIA slot And adapter card no cables.cond unk..20.00

1.2 Meg Floppy Works..... 15.00

1.44 Meg Floppy Works.....15.00

Toshiba P321sl printer W/ DOCs. works.....40.00

HP laserjet Network Card Cond. Unk. 15.00

8- 1 meg 32pin simms 70ns speed works..... 40.00/four

PCMCIA Network Card comes w/ docs, 1.44 meg disk w/ software
and adapter cable Cond. Unk.....25.00

relisys VGA monitor I don't think this is SVGA but it works.. 75.00

1X CD ROM drive Works, with cable and controller 20.00

Hayes external 2400 baud modem..works.....15.00

Assorted PCI bus VGA cards all work some are diamond
stealth cards all have at least 1 Meg of Memory.....25.00 Ea.

Assorted Network cards includes 3com, intel some are specify
PCI or EISA bus Cond. Unk.....4/20.00

Assorted SCSI Cards No docs No cables. Cond. Unk.....3/20.00

Assorted

4366. Re: Q: Injected Carrier Detection in Receiver?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: David Woolley <david@djwhome.demon.co.uk>
Message-ID: <DuH9JH.BpH@djwhome.demon.co.uk>
Source record: 104047
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

[Moved to rec.radio.amateur.digital.misc]

In article <4s1qug$cvq@news3.realtime.net>,
Kent Farnsworth <akent@bga.com> wrote:
>From Kent Farnsworth, the original poster responds:
>
>tiemann@spot.Colorado.EDU (TIEMANN BRUCE) wrote:
>
>>If you are having a problem with keeping the other sideband out of the
>>carrier phase-lock circuitry because your filters aren't sharp enough,
>>then I expect you will also have a problem with the wrong (that is,
>>supposedly supressed) sideband jamming the incoming correct sideband.

And you could avoid the whole problem by simply using two half rate
signals on the two sidebands, both in the same direction. (This is
a thought experiment, as there are almost certainly better ways of
doing things.)

>The whole idea behind this toy idea is to use as little as possible of
>the RF bandwidth. My theory is that if you bandwidth limit data, pass
>each direction over one SB using a carrier, you effectively halve the
>bandwidth on the air. From what I have seen, FM, AM, DSB, and every
>other method that everyone uses takes up twice the bandwidth of the
>spectrum relative to this idea.

I think you are taking too simplistic a view of the technology of
transmitting data over an analogue channel. Amateur equipment may well
take a simplistic view, but that is because it has to be done with
relatively low technology. The technology needed for your system would
be very complex over a lossy radio channel. (Incidentally, theoretically
there is no reason why you need to use the other sideband for the return
path, as on a radio path, in theory, and on a telephone circuit, in
everyday use, you can subtract out your own signal completely.)

One of the approaches used in phone and radio modems to get round your
problem of sidebands is to send half the bits with one carrier phase and
half the bits with a 90 degree shifted carrier. This is effectively
done as double sideband suppressed carrier. I guess there is some
redundancy to allow carrier frequency errors to be tracked and there may
even be pilot carriers in radio systems. Note though that by suitable
coding you don't need an absolute phase reference, you use phase difference
from signalling unit to signalling unit (all of the medium and
high speed modem codes do this).

>It works now, albeit with wire.

As I hinted above, with wire you can, and all modems from V.32 upwards do, get the reverse channel in the SAME frequency range as the forward channel, so your system is only using half of the capacity of the wire link.

>I agree that suppressing sidebands is a relative pain, but, if it
>utilizes bandwidth better, and you can do it cheaply, why not?

Doing it cheaply is the problem. Better modulation schemes with wider frequency separations between send and receive are a much more practical solution.

Incidentally, I sense a tendency to think in terms of bit rate equals baud rate. In an ideal world, you can get any given bit rate into an arbitrarily small bandwidth (the V.34 modem you are probably using is getting 28,800 bits per second into somewhat less than 3,000 Hz of bandwidth. Your simple AM suppressed carrier model will probably only get rather less than around 6,000 bits per second into this bandwidth and a realistic figure would be more like 3,000 (given that real telephone channels are not ideal 3.1 kHz channels, the practical limit is around 2,400 for baud rate = bit rate and analogue technology.

From a theoretical point of view, you need to consider a combination of bandwidth and signal to noise ratio. (The ultimate limit on modern telephone systems is set by the quantisaton noise from the PCM coding.)

>
>
>The problem with digital (IE PLL), is that ultimately you have to
>convert digital back into a single frequency. This is no trivial
>matter. I have used all kinds of methods to achieve a real pure sine
>from a square wave and it COSTS money to do.

The only place where you need a pure sine wave is for the transmitted signal, and that will normally have the harmonics well separated allowing much simpler filters than those needed to knock out a carrier at ZERO frequency offset (baseband digital data extends down to zero, not the 300 Hz of speech, although by scrambling, you can even out the power across the frequency range, and by bit stuffing and more general run lenght limited codes you can sacrifice a few bits to remove the zero frequency component altogether).

For mixing and synchronous detection, you may well WANT a squarewave!

Actually the presence of low frequency components means that you can't construct a filter which won't also damage the signal. You have to use codes which have a higher baseband spectrum, and therefore a wider RF one, relative to your pilot carrier, in order to filter them with real filters.

>The whole idea in this toy endevour is to produce a very minimal
>relative spectrum usage full duplex data channel, using VERY cheap
>components. I found that you can modulate digital at any frequency,
>and not need any exotic modem's, DSP's, etc. You just play with

>digital edges. The spectrum thanks you too.

All the above has assumed that you are using shaped pulses. Raw
square pulses will require rather more bandwidth. Or are you talking
about differential coding?

>If I can get this system working at about 16 to 25mhz, then it should
>also work at any higher frequency. I would like to make it work at HF
>and then play with bumping the frequency up.

Actually you need to start at VHF and work downwards. HF is subject to
time varying differential phase delays (and selective fading) which make
baud rate = bit rate systems almost impossible at much over teleprinter
speeds, except, possibly, for line of site paths. If you look at
Clover, you will see that it actually frequency division multiplexes
several very narrow (quadrature phase shift if I remember correctly)
channels. Direct QPSK at microwave can work at megabits per second.

Basically there are well known techniques for reducing the bandwidth
of a modulated digital signal. These vary from simple quadrature
phase shift keying, which can be decoded without DSPs, to the complex
schemes used in V.34. However, using wide frequency splits is so
much easier a way of obtaining full duplex than attempting to send
and recieve without any effective frequency separation, and uses no
more bandwidth in total.

You want to treat this as a learning exercise, to give you a real feeling
for some of the issues, but now is the time to consolidate that by getting
and reading a text book on electronic communications theory.
--
David Woolley, London, England david@djwhome.demon.co.uk

4367. Schematic for pro-2023 scanner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199607131219.WAA24752@dyson.brisnet.org.au>
Source record: 104048

Hello, I am looking for some service information on the Tandy (Radio Shack) scanner model pro-2023. A schematic and /or pcb layout would be most appreciated.

Peter L. Williamson
VK4AWP. peterw@dyson.brisnet.org.au

4368. Ham radio interface to Internet

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: Tony Price <daprice@wave.co.nz>
Message-ID: <4s6qsp$5ia@Axil.wave.co.nz>
Source record: 104049

I am seeking any information on whether there is a gateway or some facility that will allow me to connect to the internet via a hf transceiver to use the email facilities. Any help would be most appreciated.

Tony Price
ZL2VG

4369. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: cobra295@ix.netcom.com
Message-ID: <4s8iao$2bn@dfw-ixnews9.ix.netcom.com>
Source record: 104050
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <4s7cao$deo@piranha.ianet.net> adkinsg@piranha.ianet.net (Garry P. Adkins) writes:
>
>Hi!
>
>I recently found a 24VDC power supply in my garage that
>came from an old monitor. I think I'm going to use it
>to power a cheap little radio for base station use. (It's
>a mobile radio, btw)
>
>I'm thinking along the lines of using one of the TO-220 case
>voltage regulator (maybe adding some big caps for ripple)
>to bring the 24V down to 12 or 15 volts. My concern is that
>12V may not be sufficient for full power transmit since the
>radio expects 13.8. (The radio only pulls 1.5A at max
>modulation, so it doesn't need a ton of juice)
>
>There is a very common 15v regulator available, would that
>be too far above the 13.8? I'm not aware of any 13.8v
>parts.
>
>Any help much appriciated!
>

Through my experience, I would say your fine either way... 12V and 13.8V have pretty much become interchangable without a problem. and if you have a tolerance of 1.8V, and there is no problem, then 15V should be no problem as well, after all, it's less of a difference than 12 and 13.8... As long as you're in the ballpark you should be ok. Just don't attempt 24V. :)

4370. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: pierretr@collegebdeb.qc.ca
Message-ID: <4s8luh$nko@wagner.spc.videotron.ca>
Source record: 104051
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <31e77060.1236466@a3bsrv.nai.net>, ka1jy@usa.nai.net (Brian Ellsworth) writes:
>On 13 Jul 1996 01:31:04 -0400, adkinsg@piranha.ianet.net (Garry P. Adkins)
>wrote:
>
>>I recently found a 24VDC power supply in my garage that
>>came from an old monitor. I think I'm going to use it
>>to power a cheap little radio for base station use. (It's
>>a mobile radio, btw)
>>
>>I'm thinking along the lines of using one of the TO-220 case
>>voltage regulator (maybe adding some big caps for ripple)
>>to bring the 24V down to 12 or 15 volts. My concern is that
>>12V may not be sufficient for full power transmit since the
>>radio expects 13.8. (The radio only pulls 1.5A at max
>>modulation, so it doesn't need a ton of juice)
>>
>
>Hmm, let's see. 24 VDC on the source, 1.5 amps, and 15 vdc out, and a to-220
>case egh? I'd start saving for a nice service manual on that radio if i were
>you. When that regulator blows from the 14 watts you attempted to dissipate it
>may fail shorted and put 24 volts into your mobile. Either that or plan on some
>pretty fancy cooling system for that puppy, it's going to get screaming warm.
>
>Take a look at the junction to case thermal resistance of the regulator you are
>planning on using and do a few simple calculations before you put this thing
>together.
>
>-be

I would not suggest going much over 14 volts on a mobile rig. When I was 9X5PT,
I tried floating a charger on a car type battery to feed a FT101 (rated 13.8V, 20A)
My homebrew charger was RF sentitive, and was charging full blast all the time I
was transmitting. Both switching transistors failed, and I had to cut them out of
the circuit to get back on 220 V power. VE3BOZ had to ship me spares from
Canada.... Small print in the manual quoted a 14 volt MAXIMUM input voltage for
the rig. So I would get a BIG 15 volt zener and float it on that output, and use a
fast acting fuse in series, as well. If your supply has 220-110 volt input, you
could feed it 120 volt and switch it to 220 volt mode, also. Or else remove filter
capacitors etc. to get it to lower voltage output.

4371. Re: Homebrew FSK modem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: Steve K Brown <Steve@deltabbs.demon.co.uk>
Message-ID: <837273533snz@deltabbs.demon.co.uk>
Source record: 104052
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Hi,

> >I am trying to build an FSK modem for use on 2M packet, but the plans I
> >have calls for a TI TCM3105 FSK modem chip.

> It is not obsolete. But I think TI is only making them in surface mount
> packages now.

According to TI, the last production run for the TCM3105 in plastic DIL
format was November 1995, and the last for SMD types was April 1996.
They have *no* plans for any more runs, it is officially a deleted part.

Steve

--
#--#
| Steve Brown Voice: +44 1252 546542 Email: steve@deltabbs.demon.co.uk |
| Delta BBS - The Biz! +44 1252 546545 Free Access, Echomail, Files etc. |
#--#

4372. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: Zack Lau <zlau@arrl.org>
Message-ID: <31E7E64B.694A@arrl.org>
Source record: 104053
Cross-posted to: rec.radio.cb,rec.radio.amateur.homebrew

Garry P. Adkins wrote:

> I'm thinking along the lines of using one of the TO-220 case
> voltage regulator (maybe adding some big caps for ripple)
> to bring the 24V down to 12 or 15 volts. My concern is that
> 12V may not be sufficient for full power transmit since the
> radio expects 13.8. (The radio only pulls 1.5A at max
> modulation, so it doesn't need a ton of juice)
>
> There is a very common 15v regulator available, would that
> be too far above the 13.8? I'm not aware of any 13.8v
> parts.

An excellent part for your application is the Lamda LAS 15CB
three terminal regulator, which is designed to put out 13.8
volts at 1.5 amps. It has a TO-3 package and a power
dissipation of 15 watts @ 87.5C.

Zack KH6CP/1 zlau@arrl.org

4373. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <o5ZWWDAuG75xEwCb@ifwtech.demon.co.uk>
Source record: 104054

Jeff Duntemann wrote:
>Here's a notion I had a long time ago and haven't gotten around to
>trying...
>
>AM Modulation transformers are really rough to find these days, but
>the thriving tube audio business provides audio output transformers to
>match nearly any tube output impedence to an 8-ohm load, at almost any
>power level you'd care to try.
>
>Now...turn that around: Could we generate audio power with one of
>these solid state audio amp modules (say 20-50 watts) and pipe the
>audio into the 8-ohm side of one of those output transformers, and
>then use the other side as the modulating output in series with the
>plate of a Class C tube final like a 6146B?
>
>Every solid-state audio power amp IC or module I've seen works into
>either 4 or 8 ohms. I can't see why we couldn't use an output
>transformer "backwards" to generate audio power at the impedence a
>tube final like a 6146 or 811A would like.
>
>I LOVE the audio quality of plate-modulated AM, and this would imply
>an easy way to make a good quality 50-100W AM transmitter without
>having to grub for a used modulation transformer.
>
>Has anybody tried this? Are there any nonobvious gotchas I haven't
>thought of yet?
>

'Fraid so. The core of a modulation transformer is designed to carry the
DC current to the PA, which an ordinary AF output transformer isn't.

I guess it could work, but you'd need to under-run the transformer very
considerably from its normal audio rating, to avoid core saturation.
Using an AF transformer with a higher power rating would also help with
any possible insulation problems.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4374. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: adkinsg@piranha.ianet.net
Message-ID: <4s95cv$ip@piranha.ianet.net>
Source record: 104055
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>>There is a very common 15v regulator available, would that
>>be too far above the 13.8? I'm not aware of any 13.8v
>>parts.
>
>
>Through my experience, I would say your fine either way... 12V and
>13.8V have pretty much become interchangable without a problem.
>and if you have a tolerance of 1.8V, and there is no problem, then
>15V should be no problem as well, after all, it's less of a difference
>than 12 and 13.8... As long as you're in the ballpark you should
>be ok. Just don't attempt 24V. :)

Agreed. I've been wondering... How close to dead-on is a car's
13.8? I bet at low rpm, it gets a bit low... How about on the high
side? Does it ever get up to 15vdc?

I'll have to plug my dmm into the cig lighter and watch it on a few
trips to see what happens.

Garry

4375. cell phone conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: Danny Williams <williams@flash.net>
Message-ID: <31E81784.5D27@flash.net>
Source record: 104056

Has anyone considered on done a conversion of an old cellular phone to a
900 mhz. ham tranceiver? Any thoughts or comments appreciated.
Danny
KB5WER

4376. Where is Borg Electronics?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: Tom Lewis <ab5ck@pop.flash.net>
Message-ID: <4s95kg$l7o@excelsior.flash.net>
Source record: 104057

Does anyone know how I can get in touch with "Borg Instruments"?

Any help would be appreciated.

(((73!)))
Tom Lewis - AB5CK

4377. Univ. of Cincinnati ARC Mail List

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: lewsa@ucunix.san.uc.edu
Message-ID: <4s98mf$7mi@babbage.ece.uc.edu>
Source record: 104058
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.amateur.dx

Hi rec.radio.amateur readers:
If you are a student, alumnus, employee of the University of Cincinnati (or any other interested party...) and are interested in keeping up on the activities of the University of Cincinnati ARC...

Please send me Email at: aj054@dayton.wright.edu (summer address only) and I will add you to our mailing list!!

We know there are plenty of amateurs affiliated with U.C. who we haven't tracked down yet. We would like to hear from you and keep you informed!!

-73- de Steve, N8TFD....UCARC President 1996-1997

4378. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960713205301704 32@zetnet.co.uk>
Source record: 104059

> I'm thinking along the lines of using one of the TO-220 case
> voltage regulator (maybe adding some big caps for ripple)
> to bring the 24V down to 12 or 15 volts. My concern is that
> 12V may not be sufficient for full power transmit since the
> radio expects 13.8. (The radio only pulls 1.5A at max
> modulation, so it doesn't need a ton of juice)

> There is a very common 15v regulator available, would that
> be too far above the 13.8? I'm not aware of any 13.8v
> parts.

========== comments GM0CSZ / KN6WH
Garry, Two points :
1) If you wish to drop 24-13.8=11.2 V across a voltage regulator
possibly with series regulating transistors in parallel with the
voltage regulator, please ensure that these devices can dissipate the heat.
If your radio on transmit would need for example 9 Amps ,the devices
would have to dissipate a total of 9*11.2=100 Watts.

2) If you use a 12 Volts regulator (assuming its output is positive
in respect of the common pin) , put 3 low current silicon diodes in
series with common pin (forward bias) . This results in the output
voltage being increased with 3*0.6V=1.8V to 13.8 Volts.

Good Luck with your 13.8 Volts PSU.

Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4379. News from Spain

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-13 00:00:00 UTC
From: josedacal@arrakis.es
Message-ID: <4s8hg6$let@artemis.ibernet.es>
Source record: 104060

Hola a todos:

Hace unos dias que se creo un nuevo grupo de news sobre
radioaficionados en espanol.

El grupo es: es.rec.radio.amateur

Un saludo.

josedacal@arrakis.es

4380. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul14.010101.1119@ke4zv.atl.ga.us>
Source record: 104061

In article <4s6rit$qlc@globe.indirect.com> jeffd@coriolis.com (Jeff Duntemann) writes:
>Here's a notion I had a long time ago and haven't gotten around to
>trying...
>
>AM Modulation transformers are really rough to find these days, but
>the thriving tube audio business provides audio output transformers to
>match nearly any tube output impedence to an 8-ohm load, at almost any
>power level you'd care to try.
>
>Now...turn that around: Could we generate audio power with one of
>these solid state audio amp modules (say 20-50 watts) and pipe the
>audio into the 8-ohm side of one of those output transformers, and
>then use the other side as the modulating output in series with the
>plate of a Class C tube final like a 6146B?

I expect that would work. You can even use a reversed filament
transformer as a modulation transformer (though the high frequency
response often isn't too good). The big thing to watch out for
when trying to use transformers designed for other purposes as
modulation transformers is to make sure the insulation between
the windings and the core can stand the high voltage of the PA.
A flashover in a modulation transformer can ruin your whole day.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4381. Heathkit toroids

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: uno@cs.uiuc.edu
Message-ID: <uno-1407961350250001@mac208.ed.uiuc.edu>
Source record: 104062

Greetings,
I am about to attempt to replace the toroids in the receive section of an HW-8 that I acquired a while back. I have a catalog from Amidon Co. in Santa Ana, CA and it looks like they have what I'll need. Any advice on do's and don'ts in making and installing a toroid in an old radio? Thanks in advance for your help.

73 de Ray, WA9AXL
Urbana, IL
raybo@uiuc.edu

--
Y. Doug Uno e-mail: uno@cs.uiuc.edu
University of Illinois
1304 W. Springfield Ave. Room 2413
Urbana, IL 61801

4382. Help - setting up a 6m station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: russm@onyx.octacon.co.uk
Message-ID: <4sbpcf$6gp@mulgave.octacon.co.uk>
Source record: 104063

I would appreciate any inputs regarding setting up a 50MHz station
for the least possible cost. I have a Yaesu FT757GX MK2 and I am
therfore interested in transverters, amplifiers, antennas etc.

Any advice at all please send to my e-mail address.

Russ
G7AXN

4383. Re: crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul14.205016.5574@ke4zv.atl.ga.us>
Source record: 104064

In article <31E9841B.203B@pos.co.il> Shimon Hirschhorn <shimon@pos.co.il> writes:
>A couple of weeks ago I bought my eight year old a crystal radio kit.
>He loved building it. The problem is the reception is terrible. I
>fixed him up a ground plug that plugs in to the ground of the electric
>socket, and a antenna that attaches into the cable radio antenea. The
>reception is still terrible. He recieves all the stations at once. I
>saw the message thread on the razor blade radio, and we are going to
>give it a try.

The only selectivity a classic crystal set has is the loaded resonance of
the antenna. To improve selectivity, you have to improve the Q of the
antenna. About all you can do is use a resonant length (halfwave),
and mount it high and in the clear to minimize losses. That'll give
you the best Q with the most signal. The coil in a crystal set is
a loading coil for the antenna which allows you to resonate it at
various frequencies by adjusting the sliding tap. But as with any
coil loaded antenna, losses are least when the coil is smallest and
the antenna is closest to natural resonant length.

If signals are strong, you can change to a loose coupler circuit
to gain selectivity. In this case you add a capacitor in parallel
with the coil to form a resonant tank at the frequency of interest
and loosely link couple the antenna to the tank. This will, of course,
knock signal levels way down, but selectivity will be much better.
That's because loading on the antenna and tank are less, due to the
loose link coupling, so the loaded Q is higher.

If signals are *really* strong, you can use two tank circuits,
with loose coupling between them, to improve selectivity even more.
When you get to three or more coupled tanks, selectivity starts to
become reasonable, but signal levels become very small due to the
loose coupling. So you want to add amplifier stages between the
tuned circuits. Now you have a TRF receiver (another old classic),
but of course now you need to power it.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4384. Re: Good CB to Convert to 10m FM?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: zmbwf@somtel.com
Message-ID: <N.071496.094556.87@somtel.com>
Source record: 104065

On 6/23/96 1:07PM, in message <31CD79E0.4A92@cyberway.net>,
traveler@cyberway.net wrote:

> Mark Schoonover - KA6WKE wrote:
>
> > I'm looking for a CB that would be relatively easy to convert to
> > 10m FM. I have the usual equipment, etc. This would be my first
> > attempt and I don't know much about the different CB gear available.
>
> I have used all three on 10 FM, converted CB's convert commercial rigs, and
> radios
> designed for 10FM. Converted CB's are the worse & a waste of a good radio.
>
> Go get a old Mortac or Mastr Pro & use that. CB's have poor IF sections &
> low
> power. Leave the CB on it's intended freqs where it canbe of good use.
Don`t listen to those guys. Obviously, they have never tried it. Get yourself a
good Cobra 148 or Uniden Grant XL. These are easy to modify for 10M, just
change the xtal and re-tune the vco, mixer and RF coils. The Cobra 148 and
Grant have Excellent double - conversion recievers. Like I said, don`t listen
to the know-nothings.
Louie
N1CSS

4385. Re: 6 Meter Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: Boyd N6DMF <blfulbri@sloc.net>
Message-ID: <31E906E3.5790@sloc.net>
Source record: 104066

Hi Rudi,
You might try to find a old CB tube amp and wind a new tank coil.
I have done this and works very well. You need to make a tank coil
about 1/2 the size of the 11 meter coil. Try to find one using a
pair of 6LQ6 tubes, it will have a output of 150 watts on 6 meters.
Cut the turns down in half.

If you can't find a schematic fo one let me know and I will send
you some that I have. Some of the CB 200 watt maps have 6 meters on
them.
73,
Boyd N6DMF

---

rudix@pipex.co.ZA wrote:
>
> Hello Everyone,
>
> I want to build a 6 m linear, this linear should have at least 200 w
> PEP output if not more, I don't mind if it is solid state or valve
> based. A low driving power (2 w) would be great.
>
> I wonder if anyone out there in hamland can help with circuits or
> suggestions ?
>
> Thanks for the information !!
>
> 73, Rudi de ZR6VE
>
> rudix@infopta.co.za

4386. Re: very low frequency recievers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: lrware@aol.com
Message-ID: <4scch2$ci1@newsbf02.news.aol.com>
Source record: 104067

Depending on your location WWVB can be a real pain.
I live in Orlando, Florida (very high local noise level)
and bought a commerical unit surplus after
several trys at building a working unit.
The good news is I just read where NIST is going to turn up
the transmitted power at WWVB next year. If I remember
correctly they plan to triple it.
Check out "73 Amateur Radio Today"
Jan, Feb & Mar 1994 issues for a design by
Bob Roehrig (K9EUI).
Also look at the Aug. 1973 issue of "Radio Electronics."
for some design data from Don Lancaster.
-Larry

#
-Larry Ware, lrware@aol.com
collector of Vintage Electronic Test Equipment
(Tek, HP, the good stuff!)
Communications Receivers, (Vacuum Tube Boatanchors)
old Electronics Books & Manuals
and Phone-Cards.
What have you got?
#

4387. Re: 900 Mhz boost?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: Bob Lewis <rlewis@staffnet.com>
Message-ID: <31E99AB0.65EE@staffnet.com>
Source record: 104068

Kristen Maaherra wrote:
>
> I live ruraly, and if I could get my 900Mhz phone to go a little farther would
> have internet access!!!!! Any pro's out there give me some advice on 900 Mhz
> antenna design or bower boost?
>
> Thanks,
> You can e-mail me 'ram@indra.com' of reply here...Adding and antenna or boosting the power is illegal as the phone will no
longer meet FCC specs.

4388. Re: Glue for base of tubes..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: brian.carling@acenet.com
Message-ID: <31e91c84.0@n5.gbso.net>
Source record: 104069

You might do better with the glue that is used with MUFFLER BANDAGES
at your local auto parts supply shop, since that is a heat-resistant glue.

jstroppe@uhl.uiowa.edu (John Stroppel) scribbled:

#>What do you guys use to glue the loose base of vacuum tubes back to the
#>glass envelopes. Is epoxy glue alright?

#>John WA0VYZ

#>--
#> John Stroppel | Internet: jstroppe@uhl.uiowa.edu
#> The University of Iowa - Hygienic Lab | Amateur Radio: WA0VYZ
#> Oakdale Research Campus, OH-M7A | Voice: (319) 335-4500
#> Iowa City, IA 52242 | Fax: (319) 335-4555

4389. crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: Shimon Hirschhorn <shimon@pos.co.il>
Message-ID: <31E9841B.203B@pos.co.il>
Source record: 104070

Hello,

A couple of weeks ago I bought my eight year old a crystal radio kit. He loved building it. The problem is the reception is terrible. I fixed him up a ground plug that plugs in to the ground of the electric socket, and a antenna that attaches into the cable radio antenea. The reception is still terrible. He recieves all the stations at once. I saw the message thread on the razor blade radio, and we are going to give it a try.

Does anyone know of a decent kit for a crystal radio, or possibly easy plans that I could buy the parts for?

BTW, I once heard of a "Penny Radio" that used one US cent and some wire. THe plnas were supposedly in Mother Earth News about 10 years ago.

Thanks in Advance for any hints and help.

Shimon

4390. Help: Building a repeater system

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: kc8dml@aol.com
Message-ID: <4sbcg4$s85@newsbf02.news.aol.com>
Source record: 104071

I was told by someone that you could somehow link two base station or mobile radios like the Motorola Mocom 70 and it could operate like a repeater. I am an amatuer radio operator and I am trying to put together a radio system for my dad's business on high band (148-174). I am also looking for any new or used VHF radio equipment, (handhelds, mobiles, base stations, pagers(ex. Minitor II), test equipment, and possible ideas on what kind of antenna system I should use (1/4 wave vertical with ground radials, ground plane, or just a simple dipole???). Would I need two seperate antennas???

THX de KC8DML
Rob
Chardon, Ohio
147.21+ 444.65+
147.015+ 444.375+
146.76- 146.94-
In the Cleveland Area

4391. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: Jay123a <jay123a@gargamel.ptw.com>
Message-ID: <31e96f8e.0@mothra.westworld.com>
Source record: 104072
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Hello Garry:

Yes I would vote that 15 volts is a bit high for your radio.

There are voltage regulators that are adjustable in a TO-3 and TO-220 case, the TO-3 being preferable. I think the part number is LM323, its a 1.5 amp voltage regulator that can have its output voltage easly adjusted by a inexpensive 5K pot. Radio Shack has a short book on voltage regulators. And with 24 volts available it should had auto work. If you follow the pin out wiring corectley.

Or a regulated 12 volt power supply all ready assembled would save a lot of time, Radio Shack also has a low current unit available.

Hope you get ot all working.

Jay.

4392. very low frequency recievers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4sbp84$7hh@synthemesc.insync.net>
Source record: 104073

I am looking for schematics and other information to build
a 60 kilohertz reciever for WWVB transmissions. I would
like to recover both the reconstructed carrier and the
modulation that contains the time code. Any information
on this subject would be appreciated. Thanks in advance.

Erikc

4393. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-14 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4sbp86$7hh@synthemesc.insync.net>
Source record: 104074
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

adkinsg@piranha.ianet.net (Garry P. Adkins) wrote:

+-> Hi!

+-> I recently found a 24VDC power supply in my garage that
+-> came from an old monitor. I think I'm going to use it
+-> to power a cheap little radio for base station use. (It's
+-> a mobile radio, btw)

+-> I'm thinking along the lines of using one of the TO-220 case
+-> voltage regulator (maybe adding some big caps for ripple)
+-> to bring the 24V down to 12 or 15 volts. My concern is that
+-> 12V may not be sufficient for full power transmit since the
+-> radio expects 13.8. (The radio only pulls 1.5A at max
+-> modulation, so it doesn't need a ton of juice)

+-> There is a very common 15v regulator available, would that
+-> be too far above the 13.8? I'm not aware of any 13.8v
+-> parts.

+-> Any help much appriciated!

+-> --
+->

+-> It is dangerous to be right when the government is wrong.
+-> --Voltaire
+->

+-> Garry Adkins adkinsg@ianet.net
+-> USnail: 712 Chestnut St. BELLNet: +1-304-453-5757
+-> Kenova, WV 25530-1511

Most of the other posters have suggested various ways to use a linear
regulator to produce the 13,8 volts you want. National Semiconductor
makes a very simple *switching* regulator called the LM2576. These
parts come in 3,3v., 5,0v., 12,0v., 15,0v., and adjustable versions.
You woule want either the LM2576-12 (fixed 12v version) or the
LM2576-ADJ (adjustable adjustable). They come in a TO-220 package,
and are almost as easy to use as a 3-terminal linear regulator and run
a heck of a lot cooler. They produce a positive output, and the
heatsink tab is ground. The data sheet includes full application
information, including where to get the inductors (3 suppliers).

Erikc

4394. Anyone know Bill Welch(formely W1SAD)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: JustMe <brastoo@earthlink.net>
Message-ID: <01bb7206.b0899f00$3a082599@brastoo>
Source record: 104075

I would like to thank Bill Welch, formely W1SAD, for his wonderful training back in 1956 at the El-RAY radio club of Ratheon in Waltham, Mass. Because of him I received my novice licence in 1956 (WN1IIO) and have had many wonderful years of fun ever since. That was back in the years when HAMS were HAMS and knew electronics and were not just appliance operators.

Last known, Bill was located in California.

Thanks.

Bob W4GBB

4395. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Peter.Delmotte@mech.kuleuven.ac.be
Message-ID: <4scumg$nfn@chaos.kulnet.kuleuven.ac.be>
Source record: 104076
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <1996Jul13.080226.26905@ke4zv.atl.ga.us>, gary@ke4zv.atl.ga.us
says...
|
|You can raise the voltage of the common 12 volt three terminal
|regulators (7812, LM340, etc) by putting diodes in series with the
|common terminal to chassis (note that you have to use an insulated
|mounting for the tab, IE a mica washer). 3 diodes will increase the
|voltage by 1.8 volts (0.6 volts per diode drop).
|
|Note that the regulator will have to drop 10.2 volts to get from
|24 to 13.8 volts. At 1.5 amps, that's about 16 watts. Heatsink it
|very well. A TO-3 cased regulator might be a better choice (again
|use a mounting kit, you can't ground the case). The added diodes
|need to be rated for the current as well.
|
No, the current though the diodes is only 10mA or so, so any type diode
will do.

Peter

4396. New Amateur Radio Site (www.cyberus.ca/~jmiles)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: jmiles@cyberus.ca
Message-ID: <4sd7pf$mfu@cybernews.cyberus.ca>
Source record: 104077
Cross-posted to: rec.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

Check out http://www.cyberus.ca/~jmiles for a new Amateur Radio related site. Continue to check back as the site grows over the next month, but the first phase is in place.

4397. Re: helical before or after GaAsFET in preamp ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: mack@ncifcrf.gov
Message-ID: <DuL8t3.5vC@ncifcrf.gov>
Source record: 104078

In article <4s3nd3$7a3@n0jcf.com> chrise@n0jcf.com (Chris Elmquist) writes:
>I am interested in playing with some of these TOKO helical
>filters for 2m, 222 and 432 in conjuction with some GaAsFET
>preamps. I have a commercially built preamp (AMPIRE) that
>has the helical filter AFTER the GaAsFET... this seems cool
>since it probably doesn't contribute much to the noise figure
>this way... but I'm wondering what other tradeoffs there are
>to this method as opposed to putting the helical ahead of the
>GaAsFET. Putting it ahead would obviously add to the noise
>figure and put about 6dB of loss before the GaAsFET as well...

I would expect 0.3 db or so.
>
>Where do guys like SSB Electronics put the helicals in their
>helically filtered preamps ?

If you want to filter out signals causing intermod, you have the
filter first. If you want low system noise, you have the FET as
close as possible to the antenna (relay screwed onto the connector
with no co-ax, make the sex of the connectors so you have no
barrels etc). It that case you have the filter after the preamp.

Joe NA3T
mack@ncifcrf.gov

>
>Any comments greatly appreciated.
>
>73, Chris
>--
>Chris Elmquist, N0JCF
>chrise@n0jcf.com
>n0jcf@amsat.org

4398. Re: Can I use USA callsign in P. rico & v. Islds???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Brian Webb <102670.1206@CompuServe.COM>
Message-ID: <4sc62s$2kd$2@mhafc.production.compuserve.com>
Source record: 104079
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc

You can use your callsign/priviledges in any U.S. state or territory (Puerto Rico, Guam, Johnston Island, etc.). You can use it in the U.S. Virgin Islands; in the British Virgin Islands you can't operate unless you're a general class operator with an easy-to-get permit.

Brian
KD6NRP

4399. Guide to the Personal Radio Newsgroups

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: jmaynard@admin5.hsc.uth.tmc.edu
Message-ID: <radio/personal-intro_837456555@rtfm.mit.edu>
Source record: 104080
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb,rec.radio.info,rec.answers,news.answers

Posted-By: auto-faq 3.1.1.2
Archive-name: radio/personal-intro
Revision: 2.1 1994/11/01 03:50:23
Posting-Frequency: posted on the 15th of each month

This message describes the rec.radio.amateur.*, rec.radio.cb, rec.radio.info, and rec.radio.swap newsgroups, as well as their Internet mailing list counterparts and complements. It is intended to serve as a guide for the new reader on what to find where. Questions and comments may be directed to the author, Jay Maynard, K5ZC, by Internet electronic mail at jmaynard@admin5.hsc.uth.tmc.edu. This message was last changed on 31 October 1994 to add the discussion of non-Usenet mailing lists and streamline most of the history discussion, and to change the moderator information for rec.radio.info.

History
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Way back when, before there was a Usenet, the Internet hosted a mailing list for hams, called (appropriately enough) INFO-HAMS. Ham radio discussions were held on the mailing list, and sent to the mailboxes of those who had signed up for it. When the Usenet software was created, and net news as we now know it was developed, a newsgroup was created for hams: net.ham-radio. The mailing list and the newsgroup were gatewayed together, eventually.

Over the years, as the net grew, the volume of discussion became progressively higher. First one by one, and then as part of two reorganizations, what was once one group became many. In the process, developments elsewhere on the net were reflected in the groups as they were created, most notably the change to place all of the ham radio groups in one hierarchy.

The collection of newsgroups continues to grow as more people join the net, and as more topics of discussion gain volume, I expect to see more groups be created as well. This follows what is happening on the rest of the net.

Nearly all of the radio newsgroups have corresponding mailing lists, the notable exception being rec.radio.swap. There are also a few mailing lists that don't have newsgroups.

The Current Groups
==================

It's important to post messages to the group that's appropriate for them, and not to the groups that aren't. The whole idea of having different

newsgroups is so that folks who aren't interested in, say, homebrewing, don't have to wade through messages about homebrewing on the way to read about Field Day. Posting appropriately is just good etiquette.

The rec.radio.amateur.misc group is the catchall. It is what rec.ham-radio was renamed to during the first major reorganization. Any message that's not more appropriate in one of the other groups belongs here, from contesting to DX to ragchewing on VHF to information on becoming a ham.

The group rec.radio.amateur.digital.misc is for discussions related to (surprise!) digital amateur radio. This doesn't have to be the common two-meter AX.25 variety of packet radio, either; some of the most knowledgeable folks in radio digital communications can be found here, and anything in the general area is welcome. The name was changed to emphasize this, and to encourage discussion not only of other text-based digital modes, such as AMTOR, RTTY, and Clover, but things like digital voice and video as well. The former group, rec.radio.amateur.packet, was removed on September 21st, 1993. It is obsolete, and you should use .digital.misc instead (or the appropriate new mailing list, mentioned below). The group has .misc as part of the name to allow further specialization if the users wish it, such as .digital.tcp-ip.

The swap group is rec.radio.swap. This recognizes a fact that became evident shortly after the original group was formed: Hams don't just swap ham radio gear, and other folks besides hams swap ham equipment. If you have radio equipment, or test gear, or computer stuff that hams would be interested in, here's the place. Equipment wanted postings belong here too. Discussions about the equipment generally don't; if you wish to discuss a particular posting with the buyer, email is a much better way to do it, and the other groups, especially .equipment and .homebrew, are the place for public discussions. There is now a regular posting with information on how to go about buying and selling items in rec.radio.swap; please refer to it before you post there. To answer a frequently asked question: No, there is no mailing list that goes along with this group. If you can't read Usenet news directly, you're out of luck.

The group rec.radio.amateur.policy was created as a place for all the discussions that seem to drag on interminably about the many rules, regulations, legalities, and policies that surround amateur radio, both existing and proposed. Recent changes to the Amateur Radio Rules (FCC Part 97) have finally laid to rest the Great Usenet Pizza Autopatch Debate - it's now legal to order a pizza on the autopatch, if you're not in the pizza business - as well as complaints about now-preempted local scanner laws hostile to amateurs, but plenty of discussion about what a bunch of rotten no-goodniks the local frequency coordinating body is, as well as the neverending no-code debate, may still be found here.

The group rec.radio.cb is the place for all discussion about the Citizens' Band radio service. Such discussions have been very inflammatory in rec.ham-radio in the past; please do not cross-post to both rec.radio.cb and rec.radio.amateur.* unless the topic is genuinely of interest to both hams and CBers - and very few topics are.

The rec.radio.info group is just what its name implies: it's the place where informational messages from across rec.radio.* may be found, regardless of where else they're posted. As of this writing, information posted to the group includes Cary Oler's daily solar progagation bulletins, ARRL bulletins, the Frequently Asked Questions files for the various groups, and radio modification instructions. This group is moderated, so you cannot post to it directly; if you try, even if your message is crossposted to one of the other groups, your message will be mailed to the moderator, who is currently David Dodell, WB7TPY. The email address for submissions to the group is rec-radio-info@stat.com. Inquires and other administrivia should be directed to rec-radio-info-request@stat.com. For more information about rec.radio.info, consult the introduction and posting guidelines that are regularly posted to that newsgroup.

The groups rec.radio.amateur.antenna, .equipment, .homebrew, and .space are for more specialized areas of ham radio: discussions about antennas, commercially-made equipment, homebrewing, and amateur radio space operations. The .equipment group is not the place for buying or selling equipment; that's what rec.radio.swap is for. Similarly, the .space group is specifically about amateur radio in space, such as the OSCAR program and SAREX, the Shuttle Amateur Radio EXperiment; other groups cover other aspects of satellites and space. Homebrewing isn't about making your own alcoholic beverages at home (that's rec.crafts.brewing), but rather construction of radio and electronic equipment by the amateur experimenter.

Except for rec.radio.swap and rec.radio.cb, all of these newsgroups are available by Internet electronic mail in digest format; send a mail message containing "help" on a line by itself to listserv@ucsd.edu for instructions on how to use the mail server.

All of the groups can be posted to by electronic mail, though, by using a gateway at the University of Texas at Austin. To post a message this way, change the name of the group you wish to post to by replacing all of the '.'s with '-'s - for example, rec.radio.swap becomes rec-radio-swap - and send to that name@cs.utexas.edu (rec-radio-swap@cs.utexas.edu, for example). You may crosspost by including multiple addresses as Cc: entries (but see below). This gateway's continued availability is at the pleasure of the admins at UT-Austin, and is subject to going away at any time - and especially if forgeries and other net.abuses become a problem. You have been warned.

Mailing Lists

In addition to the mailing lists that mirror the Usenet newsgroups, there also are a few that stand alone. These cover specific areas of ham radio, and discussion is focused on just those areas.

The cq-contest mailing list is for discussions of contesting in ham radio. To join, send email with the word "subscribe" on a line by itself to cq-contest-request@tgv.com.

The DX mailing list covers the finer points of DXing. This one is also joined by mailing "subscribe" on a line by itself, this time to

dx-request@unbc.edu.

There's also a VHF mailing list, for VHF operators of the weak signal persuasion. You can join this one be sending "subscribe vhf" on a line by itself to vhf-request@w6yx.stanford.edu.

All of the following mailing lists are sponsored to the Boston Amateur Radio Club, as well as some others of local interest. Thanks to N1IST for the information.

qrp-l: This is the qrp mailing list, previously maintained by Bruce Walker at Think.com. It is for discussions about the design, construction, and use of qrp (low power) radios and related equipment.
arrl-ve-list: This is a one-way list, run by Bart Jahnke of the ARRL VEC, for announcements to VEs and VE teams.
w1aw-list: ARRL bulletins, news, and information
newsline-list: Redistribution of Amateur Radio Newsline
letter-list: Redistribution of the ARRL Letter
fox-list: Fox hunting and Radio Direction Finding
fieldorg-l: ARRL field organization discussions
ham-tech: Technical discussions and questions about Amateur Radio
arrl-exam-list: amateur radio license examinations scheduled in the US and in some foreign areas.

To sign up or inquire about these lists, send mail to listserv@netcom.com with the following in the body (subject is ignored) of the message.
<listname> is the name of the list to subscribe to.
To subscribe: subscribe <listname>
To unsubscribe: unsubscribe <listname>
For more information: help
To post (to the two-way lists), send your message to <listname>@netcom.com

Please do NOT send subscription requests to the mailing lists themselves; that doesn't work very often, and is very annoying to those on the list. Also, please keep your electronic mail address current with any mailing lists you subscribe to, as dealing with returned email is a nuisance for the person maintaining the mailing list.

A Few Words on Crossposting
==========

Please do not crosspost messages to two or more groups unless there is genuine interest in both groups in the topic being discussed, and when you do, please include a header line of the form "Followup-To: group.name" in your article's headers (before the first blank line). This will cause followups to your article to go to the group listed in the Followup-To: line. If you wish to have replies to go to you by email, rather than be posted, use the word "poster" instead of the name of a group. Such a line appears in the headers of this article.

One of the few examples of productive cross-posting is with the rec.radio.info newsgroup. To provide a filtered presentation of information articles, while

still maintaining visibility in their home newsgroups, the moderator strongly encourages cross-posting. All information articles should be submitted to the rec.radio.info moderator so that he may simultaneously cross-post your information to the appropriate newsgroups. Most newsreaders will only present the article once, and network bandwidth is conserved since only one article is propagated. If you make regular informational postings, and have made arrangements with the moderator to post directly to the group, please cross-post as appropriate.

--
Jay Maynard, EMT-P, K5ZC, PP-ASEL | Never ascribe to malice that which can
jmaynard@admin5.hsc.uth.tmc.edu | adequately be explained by stupidity.
"All is strange and vague." "Are we dead?" "Or is this Ohio?"
-- Yakko and Dot Warner

4400. Re: Help - setting up a 6m station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960715210030704 32@zetnet.co.uk>
Source record: 104081

> I would appreciate any inputs regarding setting up a 50MHz station
> for the least possible cost. I have a Yaesu FT757GX MK2 and I am
> therfore interested in transverters, amplifiers, antennas etc.
> Any advice at all please send to my e-mail address.
> Russ
> G7AXN
==========
Russell, For an excellent 50 MHz transverter and ditto for4m, 2m and
70cms ,I recommend :The VHF/UHF DX Book , edited by Ian White, G3SEK
. It includes a chapter by G4HUP ,'A high performance 50 MHz
transverter', pages 9-2 to 9-19. There are also chapters on antennas
,linear amplifiers etc.
A really excellent book for the home constructor.
Publisher: DIR Publishing , ISBN 0 9520468 0 6.
You can check availability with Ian White ,G3SEK
e-mail:g3sek@ifwtech.demon.co.uk
Success with the transverter ,best wishes
Frank , Inver by Tain , Ross-shire - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4401. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4sefsm$a5r@blixen.aquilagroup.com>
Source record: 104082

Idea:

Run a fairly high DC current through the low impedance side of transformer to cancel the flux due to plate current through high impedance side. The DC plate current on "true AM" final (as apposed to DX-60 type controlled carrier stuff) is constant.

The advantage here is that the required impedance of the audio choke would be lower, and the choke would be at low voltage, so insulation requirement is eased. Given a sufficiently high voltage, you could just use a high value resistor here, instead of a choke.

It doesn't have to be exact, youll get a little distortion as you bump against saturation one way or the other, but the other polarity should reset the core nicely. I guess music broadcasters would object, but I don't see losing the peak of one sine wave now and again as being much a detriment in a communications application.

If the transformer has a third winding, this could be used for the balance current, eliminating the need for coupling cap to audio amp.

If you use a DC coupled audio amp, then you could just put some DC bias on the amp's output...no choke!

Maybe you could encorporate low impedance side of transformer into collector circuit of a class A audio amp, thus eliminating need for seperate choke, coupling caps etc......getting rather an elegant approach at this point!

-73, ko0b

4402. Re: cell phone conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Michael Herring <mherrin@eng.clemson.edu>
Message-ID: <31EB120B.143E@eng.clemson.edu>
Source record: 104083

Danny Williams wrote:
>
> Has anyone considered on done a conversion of an old cellular phone to a
> 900 mhz. ham tranceiver? Any thoughts or comments appreciated.
> Danny
> KB5WER
I have. I have a friend who has. I'm working on it here.
73
de ke4rgy

4403. Re: How do directional RF wattmeters work ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: skubi@angela.inria.fr
Message-ID: <4sd9b8$fni@news-rocq.inria.fr>
Source record: 104084
Cross-posted to: sci.electronics.basics,sci.electronics.components,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Many thanks to all of you for the discussion about directional couplers. Now I believe that I understand them.

4404. WTB: OLD HAMMARLUND LITERETURE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: hammarlund@voyager.net
Message-ID: <4sc2uf$1gm@vixc.voyager.net>
Source record: 104085

I AM LOOKING FOR OLD LITERETURE, I.E. sales flyer's, spec sheets,
catalogs, ect for hammarlund / hammarlund-roberts / roberts-hammarlund
if you have anything please let me know, i need original material
only, (for a book i am doing on hammarlund).
DON"T assume i won't be interested, let me judge that.
thank you for reading this.

4405. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: adkinsg@piranha.ianet.net
Message-ID: <4sck1l$t5p@piranha.ianet.net>
Source record: 104086
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>Yes I would vote that 15 volts is a bit high for your radio.

Hi!

I ran some tests this afternoon with my DMM. I connected the DMM
to a lighter plug and then drove around and watched the voltage.

Here's what I saw:

Started out at 12.8v before starting the car

Started the car, and it jumped to 14.8 for several seconds then
settled down to 14.6 for about 2 minutes.

As I drove over the next 10 minutes, it slowly creeped down
to 14.2 where it stayed. (at least until I quit watching
the meter and started watching the road!)

FWIW, the car is a 92 Explorer.

Garry

4406. Re: crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Shimon Hirschhorn <shimon@pos.co.il>
Message-ID: <31EA8D93.674@pos.co.il>
Source record: 104087

Gary Coffman wrote:
> The only selectivity a classic crystal set has is the loaded resonance of
> the antenna. To improve selectivity, you have to improve the Q of the
> antenna. About all you can do is use a resonant length (halfwave),
> ....
> Gary Coffman KE4ZV | You make it, | Due to provider problems
> Destructive Testing Systems | we break it. | with previous uucp addresses
> 534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
> Lawrenceville, GA 30244 | |

Gary,

I appreciate the help. I will try a simpler antenea. I want to avoid a powered set if I can. What my son finds so interesting about the set is that it works as if by magic. He can accept that a sophisticated electronic device can do almost anything. That a crystal set without even a battery works is amazing. BTW, most of my co-workers who are fairly educated sofware people are sure that I am lying about a non-powered radio.

I still would like to find a better kit if I can. I want to keep my sons interest in electronics up. Small projects that he can do with little help like a crystal set fit the bill. Not having it attached to the AC kepps my wife calm about the matter.

Thanks
Shimon

4407. Glue for base of tubes..

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Kevin Muenzler <wb5rue@amsat.org>
Message-ID: <19960715115624.aaaa005QF@babyblue.cs.yale.edu>
Source record: 104088

brian.carling@acenet.com (Bry) wrote:

-You might do better with the glue that is used with MUFFLER BANDAGES
-at your local auto parts supply shop, since that is a heat-resistant glue.

-jstroppe@uhl.uiowa.edu (John Stroppel) wrote:

-#>What do you guys use to glue the loose base of vacuum tubes back to the
-#>glass envelopes. Is epoxy glue alright?
-
-#>John WA0VYZ

I don't think that the muffler bandages will work because they need
pretty high temperature to set, 400+ degrees. Your tube won't get hot
enough. There is some stuff called JB-Weld that is an epoxy
made for high temperature use. You can find it at an automotive
supply store too. If you can't find that then regular RTV silicone
rubber works pretty good at the temperatures that you might find
at the glass of your tube. I think it is good to around 300 degrees.
Don't use the "quick set" epoxies, they won't stand the heat and
they can create quite an odor when heated.

73,
Kevin, WB5RUE

4408. Help wanted with G4WIM 6mtr/4mtr m/mode project.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: len@mazak.demon.co.uk
Message-ID: <837443242.7735.0@mazak.demon.co.uk>
Source record: 104089

Hi, need help with the above project.

I have got probs with the CPU board,.

The radio will tune up, but just keeps on tuning up when i tune down, using an incremental encoder.

The radio tunes up and down ok with the mic buttons.

Any help or tips from anyone who has built this project, would be very welcome......

I am posting this message on behalf of G7ELV... Peter..

I will pass on any replys to him....

Cheers from Len.... and G7ELV..Peter....

4409. Re: AR-1 Ramsey Kit question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Phil <pmetcalf@xyplex.com>
Message-ID: <4sdrlq$pt@cronkite.xyplex.com>
Source record: 104090

I have not built the AR-1 but I have built a few other Ramsey kits.
One thing to check. Make sure that L6 & L7 are moving. I had one kit where
the core worked out of the bobbin and no matter how much I turned it, it
would not adjust.

Another possibility is a wrong value capacitor in the tuning circuit, or a
bad (off frequency) crystal. If you built this from a kit, double check
all of your connections adn soldering. Check to see if you have any shorts
specifically around the tuning circuit.

Hope it helped!

-> Phil KA1NHZ

4410. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4se0s3$kfs@hpcvsnz.cv.hp.com>
Source record: 104091

Ian White, G3SEK (G3SEK@ifwtech.demon.co.uk) wrote:
: Jeff Duntemann wrote:
: >Now...turn that around: Could we generate audio power with one of
: >these solid state audio amp modules (say 20-50 watts) and pipe the
: >audio into the 8-ohm side of one of those output transformers, and
: >then use the other side as the modulating output in series with the
: >plate of a Class C tube final like a 6146B?

..

: >Has anybody tried this? Are there any nonobvious gotchas I haven't
: >thought of yet?
: >

: 'Fraid so. The core of a modulation transformer is designed to carry the
: DC current to the PA, which an ordinary AF output transformer isn't.

: I guess it could work, but you'd need to under-run the transformer very
: considerably from its normal audio rating, to avoid core saturation.
: Using an AF transformer with a higher power rating would also help with
: any possible insulation problems.

The way that old plate-modulated AM broadcast transmitters worked was to avoid running the DC through the modulation transformer; I imagine it helped a lot in achieving low distortion levels. You run the DC through a good audio choke, and couple the modulation transformer to the RF_PA end of the choke with a capacitor. This also removes DC from the transformer "secondary" so there would be less liklihood of any insulation problems, but there really weren't any anyway, since the transformer was designed to have the "secondary" (originally primary) driven by plate voltage plus audio anyway. Finding an appropriate choke (and capacitor) might be some fun. They were often the largest components in an AM broadcast transmitter, larger than the power transformer and filter caps and choke.

Solid state amplifiers typically don't care _very_ much (compared with tube amps) about what load impedance they see, so long as you don't exceed their current capability; but it would be fairly important to use a design that really could put out the power. Typical audio power in a hi-fi system is much below the peak power the amplifier is capable of, and you'd want to make sure the design (including things like heat sinking) was appropriate for the average and peak power you'd need for modulation.

--
Cheers, Tom
tomb@lsid.hp.com

4411. Cheap Rig for New Tech-Plus?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Rick Miller <rick@DigalogSys.com>
Message-ID: <Pine.LNX.3.91.960715091613.2160A-100000@net.digalogsys.com>
Source record: 104092

Hi!

I finally got back into ham radio by getting my Tech-plus license this weekend! I was tired of kicking myself in the pants for letting the license I got when I was 12 years old expire. :-) With Navy morse training and an Electrical Engineering education, it was a *breeze*! I'll probably upgrade later this year, my testing being limited by the 4-year-old son I had along and the wife waiting impatiently for me to come home.

So here I am, a new Tech-plus without a rig. I'd like to build something simple (and *dirt* *cheap*) that I can operate until I can scrape up enough "mad-money" to buy a 2-meter handheld. CW-only is *fine*. I even still have the straight key I got when I was twelve, in good condition too.

Does anyone have any suggestions where I might find easy-n-cheap plans or kits? I just want to be able to get on the air *somehow* until my hobby fund can afford something nicer.

(Any response from anyone familiar with Milwaukee-area repeaters would be *doubly* appreciated!)

Rick Miller (test passed, call unknown)

Raportisto demandis de Mahatma Gandhi, "Sr-o. Gandhi, kio vi pensas pri Okcidenta Civilizacio?" Li respondis, "Mi pensas ke gxi estus bona ideo."

4412. Re: B&W Coil Stock Supplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <4se5tb$add@itnews.sc.intel.com>
Source record: 104093
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Paul Knight <pknight@elec.ctl.etn.com> wrote:
>Hi! I need to procure some B&W airwound coil stock for a project,
>and was hoping that someone could recommend a supplier for such.

Surplus Sales of Nebraska advertises such in QST. (402)346-4750

73, Cecil, W6RCA, OOTC (not speaking for my employer)

4413. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: ard12@eng.cam.ac.uk
Message-ID: <4se7qs$kbf@lyra.csx.cam.ac.uk>
Source record: 104094
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

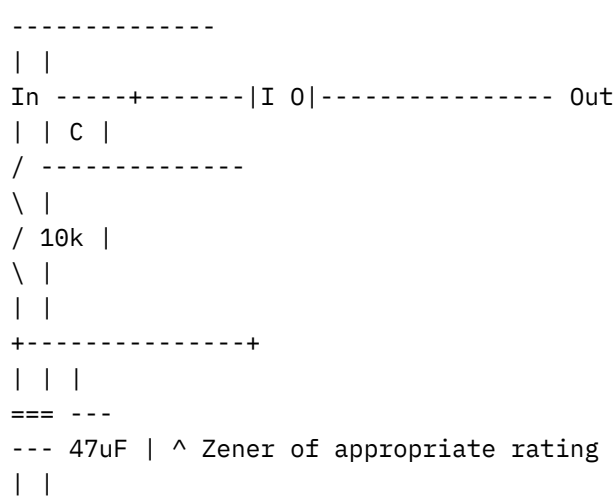
gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>You can raise the voltage of the common 12 volt three terminal
>regulators (7812, LM340, etc) by putting diodes in series with the
>common terminal to chassis (note that you have to use an insulated
>mounting for the tab, IE a mica washer). 3 diodes will increase the
>voltage by 1.8 volts (0.6 volts per diode drop).

There's a gotcha related to this :

I once needed a 24V 2A supply for a tape streamer. Now, the local electronics shop only stocked the 78Sxx's up to the 78S15 (15V), so I decided to use that and put a 9.1V zener between the common pin of the regulator and ground, with a 10k (or thereabouts) resistor from the input to the top of the zener to ensure the zener was passing a sensible current.

It worked fine off-load, but when I powered it up with the streamer connected, the output was very low. Experimentation proved that connecting it to the streamer after powerup was OK, as was shorting out the zener and powering it up with the streamer connected. In the latter case, the regulator gave out 15V, of course, and upon removing the short across the zener, the output rose to 24V and stayed there.

I finally discovered that the switch-on current of the streamer was enough to cause the output pin of the regulator to be below 9V for a significant time after power-up. Thus, the output was more negative than the common pin, which caused the 78S15 to go into shutdown mode. I finally cured it by connecting a capacitor of a few 10's of uF across the zener to give a 'soft start'. It now works fine...



```
| |
Gnd-----+---------------+----------------- Gnd
```

>Note that the regulator will have to drop 10.2 volts to get from
>24 to 13.8 volts. At 1.5 amps, that's about 16 watts. Heatsink it
>very well. A TO-3 cased regulator might be a better choice (again
>use a mounting kit, you can't ground the case). The added diodes
>need to be rated for the current as well.

If you're using diodes or zeners to 'jack up' a regulator, they only carry the (low) current needed by the regulator itself, not the load current. They don't need to be highly rated.

>Gary
--
-tony
ard12@eng.cam.ac.uk
The gates in my computer are AND,OR and NOT, not Bill

4414. ** FLEA at MIT ** Sunday 21 July Cambridge MA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: w1gsl@athena.mit.edu
Message-ID: <4sedug$af7@senator-bedfellow.MIT.EDU>
Source record: 104095
Cross-posted to:
rec.radio.swap,rec.radio.amateur.misc,rec.radio.info,sci.electronics,ne.forsale,ne.general,rec.radio.amateur.homebrew

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MIT Radio Society (W1MX)
Harvard Wireless Club (W1AF)

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****
Steve Finberg W1GSL w1gsl@mit.edu
PO Box 82 MIT Br Cambridge MA 02139-7082 617 258 3754
****

4415. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: alf@kaiwan.com
Message-ID: <dCmwnClg18tQ068yn@kaiwan.com>
Source record: 104096
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4sck1l$t5p@piranha.ianet.net>,
adkinsg@piranha.ianet.net (Garry P. Adkins) wrote:
> >Yes I would vote that 15 volts is a bit high for your radio.
>
> Hi!
>
> I ran some tests this afternoon with my DMM. I connected the DMM
> to a lighter plug and then drove around and watched the voltage.
>
> Here's what I saw:
>
> Started out at 12.8v before starting the car
>
> Started the car, and it jumped to 14.8 for several seconds then
> settled down to 14.6 for about 2 minutes.
>
> As I drove over the next 10 minutes, it slowly creeped down
> to 14.2 where it stayed. (at least until I quit watching
> the meter and started watching the road!)
>
> FWIW, the car is a 92 Explorer.
>
> Garry
>
>

Years ago (> 10+ years?) I read that it is quite possible to get
transient spikes up to 80-90 V. Modern vehicular electrical
system might do better. However, if you know that in some aspects
the specifications for vehicular electronics system is more
stringent that Mil Spec, you might get worried. Any one with some
facts to fill in?

73,

Alfred Lee alf@kaiwan.com
KE6KGV 'The answer is (e^i&#65533; + 1) ? "No" : "Yes"'
Remembering: KE6LTH, KD6HNU, March 22, 1996

4416. B&W Coil Stock Supplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: Paul Knight <pknight@elec.ctl.etn.com>
Message-ID: <31EAABF1.2C24@elec.ctl.etn.com>
Source record: 104097
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

Hi! I need to procure some B&W airwound coil stock for a project,
and was hoping that someone could recommend a supplier for such. I
haven't ordered it in years, and the last company I got some from
is no longer in business.

If it matters, I need a length (8" or so) of 3 in. dia. stock, 6 TPI.

Please drop me a note if you've acquired some recently.

--
Thanks!

Paul Knight WD8DKY
pknight@elec.ctl.etn.com

-or-

PEKnSLK@aol.com

4417. Need input on HF antenna idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: dkg@value.net
Message-ID: <4se2tc$av@vnetnews.value.net>
Source record: 104098

I am currently looking at a HF unit to add to my shack. The problem is, I am in an apartment, making it diffuclt to put up a low band antenna.

However, while out on my pouchh the other day I noticed the rain gutter comes down right at the edge of my pouch (I'm on the ground floor).

Anyway, here is my idea: Disconnected the raingutter from the ground, then load the gutter up through a matching transformer. Would this work? I'm also worried about how this RF energy would affect others. What if someone touchs it while transmitting (200 Watts)? I figured that there was atleast 1000 feet of aluminum rain gutter going around the building (very conservitive figure). Thus, with 200 Watts, there souldn't be that much RF at any one point that would harm anyone. Maybe only transmit at night? I'm also conserned on how it will affect other peoples TV and radio reception.

So, will this idea work? Any ideas, thoughts, or comments?

David Genrich, KF6CZP
dkg@value.net

4418. Power supplies for 4CX250 or 4X150.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: CHRIS@seitz.COM
Message-ID: <85EE722F012E0F00@seitz.com>
Source record: 104099

I have been collecting parts for an amplifier using a 4X150 on
6 meters. The plate supply is easy but I'm not too sure about the
grids. One supply is about 300 VDC at ~ 50 mA regulated and the
other is at aboth -75 VDC but I don't know the current draw. Is the
300 V supply right and what is the current level on the -75 V supply.

One of the things that I was looking at is that it would be
extremely easy for me to design a switching supply for the grid
supplies running off of say 12 VDC. This could lead to later
designing a 12 VDC to ~1500 VDC plate supply for portable operation.
My only problen is not being familiar with the requitements for these
supplies and old designs don't worry about it.

4419. Re: very low frequency recievers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-15 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-150796121927@160.205.101.24>
Source record: 104100

In article <4scch2$ci1@newsbf02.news.aol.com>, lrware@aol.com (Lrware) wrote:

> Depending on your location WWVB can be a real pain.
> I live in Orlando, Florida (very high local noise level)
> and bought a commerical unit surplus after
> several trys at building a working unit.
> The good news is I just read where NIST is going to turn up
> the transmitted power at WWVB next year. If I remember
> correctly they plan to triple it.
> Check out "73 Amateur Radio Today"
> Jan, Feb & Mar 1994 issues for a design by
> Bob Roehrig (K9EUI).
> Also look at the Aug. 1973 issue of "Radio Electronics."
> for some design data from Don Lancaster.
> -Larry

Here's a couple of comments to complement Larry's posting:

1) I have built Bob Roehrig's WWVB active antenna, receiver and frequency comparator, and they work just fine. Unlike Larry, I happen to be blessed (?) w/ being approx. 65 mi. from the WWVB transmitter site; I had to really reduce the receiver gain to comply w/ Bob R.'s alignment criteria. I guess I'll have to reduce the receiver gain further when the ERP of WWVB is increased...

2) Beware of local noise sources (esp. light dimmers) whilst receiving WWVB. During my initial bench test on the active antenna and receiver, just one activated dimmer in my house produced enough interference to render the received WWVB signal useless.

3) Don Lancaster's WWVB article in the August 1973 issue of Radio-Electronics (and the concluding article in the September 1973 issue) IMO provides an alternative WWVB receiver approach, but the designs presented may require some revision due to obsolete/unobtainable parts. Note also that Lancaster's articles were oriented towards reception of the WWVB serial time code vs. Roehrig's emphasis on frequency comparison (though both authors discuss ways to get both frequency and time code from their projects).

4) Another source of information (if you can find a copy) is the October 1964 issue of Hewlett Packard Journal. This issue has an article which discusses the venerable HP 117A VLF Comparator, which AFAIK was one of the first instruments designed to provide a relatively quick means of NBS/NIST-traceable frequency comparison via WWVB.

TGB

\\ The opinions expressed herein are my own. //

4420. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <31EB4650.2519@rcru.rl.ac.uk>
Source record: 104101
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

A.R. Duell wrote:
>
> gary@ke4zv.atl.ga.us (Gary Coffman) writes:
> >You can raise the voltage of the common 12 volt three terminal
> >regulators (7812, LM340, etc) by putting diodes in series with the
> >common terminal to chassis (note that you have to use an insulated
> >mounting for the tab, IE a mica washer). 3 diodes will increase the
> >voltage by 1.8 volts (0.6 volts per diode drop).
>
> There's a gotcha related to this :
>
snip
>
> I finally discovered that the switch-on current of the streamer was
> enough to cause the output pin of the regulator to be below 9V for a
> significant time after power-up. Thus, the output was more negative than
> the common pin, which caused the 78S15 to go into shutdown mode. I
> finally cured it by connecting a capacitor of a few 10's of uF across the
> zener to give a 'soft start'. It now works fine...

How about removing the resistor alltogether and using the regulator
bias current to (a few 10s of mA) to provide the drop across the zener.

A couple of 0.1uF capacitors between input and common and output and
common on the regulator to avoid instability.

I have used an LED for the zener, with a 12V regulator you get 13.9V and
an "ON" indicator.

Mike

4421. Check this out!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: sean@Alpha.remcan.CA
Message-ID: <31EBB09B.3C91@Alpha.remcan.ca>
Source record: 104102

```
Check this out!
Http://personal.solutions.net/sean/
```

4422. Problem constructing a radiolink

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: qpkmima@epk.ericsson.se
Message-ID: <4sg5rj$t3l@erinews.ericsson.se>
Source record: 104103

Hello,

my name is Michael Martinsson. I'm currently doing a project for my university (I'm a student). I'm going to build a radiolink for data transfer. The data are going to be transfered from a mobile station about 500-1000 metres from the University. I think the best frequency for me to use is in the band 432-440 MHz. What I want is some ideas about the construction or some good books or links about this kind of construction. The University wants a proposal for one professional solution and an investigation about how to build it ourselves.

I hope someone can help me

Best Regards

// Michael

4423. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: ard12@eng.cam.ac.uk
Message-ID: <4sg9re$703@lyra.csx.cam.ac.uk>
Source record: 104104
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Mike Willis <mjw@rcru.rl.ac.uk> writes:
[...]
>> I finally discovered that the switch-on current of the streamer was
>> enough to cause the output pin of the regulator to be below 9V for a
>> significant time after power-up. Thus, the output was more negative than
>> the common pin, which caused the 78S15 to go into shutdown mode. I
>> finally cured it by connecting a capacitor of a few 10's of uF across the
>> zener to give a 'soft start'. It now works fine...

>How about removing the resistor alltogether and using the regulator
>bias current to (a few 10s of mA) to provide the drop across the zener.

Some of the lower-current regulators don't provide enough bias current
to let the zener stabilise. I was caught by that once as well, and now
prefer to include a resistor if possible. The extra cost of the resistor
and soft-start capacitor is minimal, and it ensures that the design is
reliable.

>A couple of 0.1uF capacitors between input and common and output and
>common on the regulator to avoid instability.

Agreed. I did include them (well, 0.22uF actually), but I didn't put them
on the ASCII-art schematic as I though they were 'obvious'.

>I have used an LED for the zener, with a 12V regulator you get 13.9V and
>an "ON" indicator.

I like that. I assume it must be a red LED to drop 1.8V

>Mike

--
-tony
ard12@eng.cam.ac.uk
The gates in my computer are AND,OR and NOT, not Bill

4424. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4sgk5a$be6@hpcvsnz.cv.hp.com>
Source record: 104105

Kevin AstirCS "1U" KO0B (kferguson@aquilagroup.com) wrote:
: Idea:

Hey, some good ideas there!

: Run a fairly high DC current through the low impedance side of
: transformer to cancel the flux due to plate current through high
: impedance side. The DC plate current on "true AM" final (as apposed
: to DX-60 type controlled carrier stuff) is constant.

: The advantage here is that the required impedance of the audio choke
: would be lower, and the choke would be at low voltage, so insulation
: requirement is eased. Given a sufficiently high voltage, you could
: just use a high value resistor here, instead of a choke.

But beware of the power dissipation...more comments below...

: If the transformer has a third winding, this could be used for the
: balance current, eliminating the need for coupling cap to audio amp.

Yes, but don't drive it from a hard voltage source, because that will
short out the audio! It needs to be driven from a source with high
enough impedance at audio to not load the audio amp too much.

: If you use a DC coupled audio amp, then you could just put some DC
: bias on the amp's output...no choke!

Good idea, but beware of power dissipation in the audio amp! If the
PA is running 1000 volts at 200mA, you need 100 watts of audio to
modulate it, at 5000 ohms. If your transformer has a 25:1 turns ratio, the
primary side will be 8 ohms, BUT you will need 200mA*25= 5 amps of DC at
the primary side to cancel out the secondary current. If the primary DC
resistance (just a guess) is a couple ohms, that's 10 volts DC drop in the
winding, but the amplifier will be running on perhaps +/- 50 or 60 volt
supplies, and you'll be dropping the difference (40 or 50 volts) in an
output transistor, at 5 amps, or LOTSA WATTS that you're gonna have to
dissipate in a heatsink. This might be a really good place for a class D
amplifier!!

: Maybe you could encorporate low impedance side of transformer into
: collector circuit of a class A audio amp, thus eliminating need for
: seperate choke, coupling caps etc......getting rather an elegant
: approach at this point!

Another idea is to use just the primary of a center-tapped tube amp output
transformer. Feed the PA power to the center tap. PA connects to one side
and the audio amp to the other side. The audio amp could be a high-voltage

power mosfet, or a tube...

--
Cheers,
Tom
tomb@lsid.hp.com

4425. Re: crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul16.134946.4241@ke4zv.atl.ga.us>
Source record: 104106

In article <31EA8D93.674@pos.co.il> Shimon Hirschhorn <shimon@pos.co.il> writes:
>Gary Coffman wrote:
>> The only selectivity a classic crystal set has is the loaded resonance of
>> the antenna. To improve selectivity, you have to improve the Q of the
>> antenna. About all you can do is use a resonant length (halfwave),
>> ....
>
>I appreciate the help. I will try a simpler antenea. I want to avoid a
>powered set if I can. What my son finds so interesting about the set is
> that it works as if by magic. He can accept that a sophisticated
>electronic device can do almost anything. That a crystal set without
>even a battery works is amazing. BTW, most of my co-workers who are
>fairly educated sofware people are sure that I am lying about a
>non-powered radio.
>
>I still would like to find a better kit if I can. I want to keep my
>sons interest in electronics up. Small projects that he can do with
>little help like a crystal set fit the bill. Not having it attached to
>the AC kepps my wife calm about the matter.

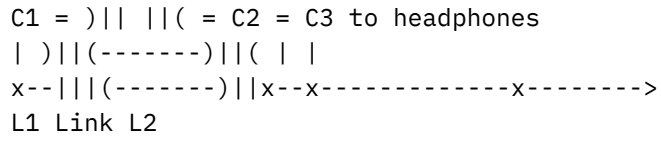
Ok, here's a classic loose coupled design. The coil can be an old
loopstick out of a discarded AM radio, and the variable capacitor
can be from a discarded AM set as well.

```
___
Ant \|/
| 1N34
| -----x------->|----x---------->
| || ( | |
| || ( = 365pf var = .1 uf to high impedance headphones
| || ( | |
Link-> ) || (----x-------------x---------->
|
_|_
Gnd ///
```

The link should be a couple of turns around one end of the loopstick.
You can vary the number of turns on the link and the position of the
turns on the coil to vary coupling, and hence selectivity.

Now if you add a second tank like this

```
ANT GND
| | D1
---)||( | ||(--x------->|----x-------->
| )||(--x ||( | |
```



Now you have one tank, L1, C1, which has the antenna link coupled to it as before, but now that tank also has a link coupled to a second tank, L2, C2, which you also resonate. By varying the number and positions of the turns on the antenna link, the first tank link, and the second tank link, you can make tradeoffs between sensitivity and selectivity. D1 is your "crystal". That can be an actual crystal, or a germanium diode like a 1N34. C3 is a RF bypass capacitor to close the circuit, anything from .001 to .1 uf should work.

Now if you insert a transistor RF amplifier in the link, you'll have a TRF receiver. A simple amp powered by a battery will work fine. This may be needed if signal levels are too low at the headphones. You can also add a battery powered audio amp and drive a loudspeaker instead of headphones. These would be the obvious next steps after building the crystal set. You don't need to fool with AC power.

(Note there are better ways than the TRF if you decide to go with amplification. The real next obvious step would be to build a regenerative receiver. I won't even attempt to draw that with ASCII art, but it can be done with only 2 transistors.)

Note that a good way to build these circuits is breadboard fashion. Use a real breadboard (a pine plank). Draw the circuit on the plank, drive brass brads at each connection point, and install and wire the components to these brads.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4426. Re: Power supplies for 4CX250 or 4X150.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul16.140922.4377@ke4zv.atl.ga.us>
Source record: 104107

In article <85EE722F012E0F00@seitz.com> CHRIS@seitz.COM (R Chris Ross) writes:
>
> I have been collecting parts for an amplifier using a 4X150 on
>6 meters. The plate supply is easy but I'm not too sure about the
>grids. One supply is about 300 VDC at ~ 50 mA regulated and the
>other is at aboth -75 VDC but I don't know the current draw. Is the
>300 V supply right and what is the current level on the -75 V supply.

300 volts sounds about right for the screen grid supply, but 50 mA
sounds high for screen current. The -75 volt supply is the control
grid bias supply. It shouldn't need to supply any current at all
to the tube, but it needs to be adjustable so you can set the idling
current of the amplifier. -75 volts sounds close to, if not beyond,
cutoff for the tube, so you'll want to be able to reduce this bias
voltage to set idling current. (I have a suspicion that the circuit
you have is for a Class C amp. You probably want a Class AB1 amp
instead.)

Note that screen supplies aren't simple. It needs to hold regulation
with either positive or negative current flow. There may be a shunt
resistor in the circuit used for this, and that would explain the
50 mA rating of the supply. And the screen needs to be bypassed well
for RF. You also want the control circuits to apply HV before screen
voltage, and remove screen voltage before removing HV, or you could
destroy the grid as it tries to become the tube plate. (This can be
done at the same time if you can ensure that screen voltage will
never be present without HV being present.)

> One of the things that I was looking at is that it would be
>extremely easy for me to design a switching supply for the grid
>supplies running off of say 12 VDC. This could lead to later
>designing a 12 VDC to ~1500 VDC plate supply for portable operation.
>My only problen is not being familiar with the requitements for these
>supplies and old designs don't worry about it.

Get a copy of Eimac's "The Care and Feeding of Power Grid Tubes" and
read up on what you need to do to make these amps live. You can use
switching supplies, but be careful to shield and filter them well.
If RF gets into them, they can go wild and destroy themselves, or
the tube.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org

Lawrenceville, GA 30244 | |

4427. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul16.142437.4479@ke4zv.atl.ga.us>
Source record: 104108
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <4se7qs$kbf@lyra.csx.cam.ac.uk> ard12@eng.cam.ac.uk (A.R. Duell) writes:
>gary@ke4zv.atl.ga.us (Gary Coffman) writes:
>>Note that the regulator will have to drop 10.2 volts to get from
>>24 to 13.8 volts. At 1.5 amps, that's about 16 watts. Heatsink it
>>very well. A TO-3 cased regulator might be a better choice (again
>>use a mounting kit, you can't ground the case). The added diodes
>>need to be rated for the current as well.
>
>If you're using diodes or zeners to 'jack up' a regulator, they only
>carry the (low) current needed by the regulator itself, not the load
>current. They don't need to be highly rated.

Yeah, that's right. For some reason I was thinking the regulator
was a shunt regulator. It isn't, of course. It's a series pass
design. So the main current goes from input to output, and very
little flows through the reference pin, probably only a couple
of mils.

I've thought of another thing too. Most of the TO-220 3 terminal
regulators can only handle 1 amp. This application needs more
current. A solution to that, at the cost of another 0.6 volt,
can be had by having the regulator drive the base of a series
pass transistor like a 2N3055. Then the regulator transistor
handles the heavy current and the 3 terminal regulator only has
to handle the output current divided by the beta of the 2N3055,
or about 50 times less. The downside is you lose the overcurrent
shutdown feature of the 3 terminal regulator when you do this.
In this application, a fast fuse should substitute nicely, but
another transistor could be added to starve base current to
the 2N3055 during overcurrent periods.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4428. Re: crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: protect@bright.net
Message-ID: <protect-1607961517520001@chil4-cs-13.dial.bright.net>
Source record: 104109

If you are interested in Crystal sets, I would recommend two sourses. First, Antique Electronic Supply, 6221 S. Maple Ave., Tempe AZ. 85283 Phone 800-706-6789 SThey have all the old fashioned parts like cats whiskers and crystal holders and both broadcast and shortwave crystal kits. Second, The Xtal Set Society,P.O. Box 3026, St. Louis MO. 63130 or Phone 314-725-1172. They have a regular newsletter from other crystal builders on how to articles. They also sell a number of How-To Books on building sets from scratch. Hope this helps. I use an old 1921 Steinite Labs Crystal set I got from my Dad.

--
Charles

4429. Want to build stereo amp- where to start?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: bigdick@uclink3.berkeley.edu
Message-ID: <4sh162$rtb@agate.berkeley.edu>
Source record: 104110

I would like to build my own 80-150 watt per channel amplifier fro my
home audio system. I just don't know where to start. Can anyone
recommend a good reference for starting such a project? Something that
will really lead me along with a project that I can improve myself.

Thanks, Jed <jed@csua.berkeley.edu>

--
****
Hey Der, Polka Boy, Go Home and Suck a Beer * Go Bears!
Hey Der, Bratwurst Head, Go Drive Your Old John Deere * (both of 'em)
Yah Hey, Keep Your Women Away, The Smell Will Make Us Cry *

4430. Re: Problem constructing a radiolink

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960716210453704 32@zetnet.co.uk>
Source record: 104111

In message <4sg5rj$t3l@erinews.ericsson.se>
qpkmima@epk.ericsson.se (Mikael Martinsson) writes:

> Hello,

> my name is Michael Martinsson. I'm currently doing a project for my
>university (I'm a student). I'm going to build a radiolink for data
>transfer. The data are going to be transfered from a mobile station
about >500-1000 metres from the University. I think the best
frequency for me to >use is in the band 432-440 MHz. etc etc
>Best Regards

>Michael , Callsign ???

==========
Michael, Are you a licenced radio amateur ? I thought that in Sweden
,being in ITU Zone 1 ,the 430-440MHz segment is a Hamband ; or is
that band in your country shared with other services (educational
organisations etc ?)
Best regards
Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4431. SB100 Part Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: "Hector A. Gomez" <hge@iamerica.net>
Message-ID: <31EC1D2D.7784@iamerica.net>
Source record: 104112

I was needing a 40 Meter Hetradyne Crystal(15.895MHz) for my Heathkit SB100. Please let me know if you have one for sale or trade or even if you just know where I can locate one.

Thanks,

Hector
KC5CXC

4432. Re: SB100 Part Needed

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: stevem@best.com
Message-ID: <4sh8f4$ff2@shellx.best.com>
Source record: 104113

In article <31EC1D2D.7784@iamerica.net>,
Hector A. Gomez <hge@iamerica.net> wrote:
>I was needing a 40 Meter Hetradyne Crystal(15.895MHz) for my Heathkit
>SB100. Please let me know if you have one for sale or trade or even if
>you just know where I can locate one.
>
>
>Thanks,
>
>Hector
>KC5CXC

If no one has one from a trashed SB100, you can copy the oscillator
section of the schematic and send it to International Crystal in
Oklahoma and they will make you one. Probably cost about $12.00.

Good Luck

Steve M. WF6R

4433. homepage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: Dave Booth kc6wfs <booth@pactitle.com>
Message-ID: <31EC1AB1.41C6@pactitle.com>
Source record: 104114
Cross-posted to: rec.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

If you get boared. Check out my Ham Page. Lots of good links!
http://www.geocities.com/Hollywood/5860
--
Dave Booth
kc6wfs

4434. homepage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: Dave Booth kc6wfs <booth@pactitle.com>
Message-ID: <31EC1E0E.167E@pactitle.com>
Source record: 104115
Cross-posted to: alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

Check out my home page if you get board!
http://www.geocities.com/Hollywood/5860
thanks..
--
Dave Booth
kc6wfs

4435. Re: Power supplies for 4CX250 or 4X150.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <y522mUAeB56xEwYU@ifwtech.demon.co.uk>
Source record: 104116

R Chris Ross wrote:
>
> I have been collecting parts for an amplifier using a 4X150 on
>6 meters. The plate supply is easy but I'm not too sure about the
>grids. One supply is about 300 VDC at ~ 50 mA regulated and the
>other is at aboth -75 VDC but I don't know the current draw. Is the
>300 V supply right and what is the current level on the -75 V supply.
>
> One of the things that I was looking at is that it would be
>extremely easy for me to design a switching supply for the grid
>supplies running off of say 12 VDC. This could lead to later
>designing a 12 VDC to ~1500 VDC plate supply for portable operation.

Aim for much closer to 2000V, because you'll soon want to replace that
4X150 with a 4CX250.

>My only problen is not being familiar with the requitements for these
>supplies and old designs don't worry about it.

The requirements for modern Class AB1 operation are very different from
those for Class C.

This isn't meant to be an advertisement, but The VHF/UHF DX Book
contains about 75 pages more than I can say on the subject here!
It's now available from ARRL.

Also check out PA0ZN's ftp site (via http://www.nitehawk.com/rasmit/)
for details of a fairly simple screen regulator and trip circuit which
is now out on 'beta-test'.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4436. ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: "James S. Kaplan" <kg7fu@combined.com>
Message-ID: <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>
Source record: 104117
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

ARRL lawyer to sue member

The following is a copy of a message I received today from
ARRL General Counsel Christopher D. Imlay N3AKD:

To: James S. Kaplan, KG7FU
Copies: Mary Lou Brown, NM7N
Terry Baun
John Poray
Date: July 16, 1996
Re: Your article, SBE Chapter 124 Newsletter, July, 1996
****

Jim, I have just finished reading your article in the July,
1996 Water Cooled Newsletter, page 6. In it, you argue that two of
my clients, the American Radio Relay League, Inc. and the Society
of Broadcast Engineers, Inc. should cooperate in certain government
relations projects, specifically spectrum protection. You note that
I serve as the General Counsel for both organizations. You then
jump from that argument to the following, which I quote:

If Mr. Imlay can't resolve HIS OWN conflicts of interest,
perhaps both ARRL and SBE should be seeking more
effective counsel. No offense Chris, but we have work to
do. We should not only be sending a message to the FCC
and Congress, but to other radio industries.

(emphasis in original)

It is not useful for me to educate you on the subject of your
article to correct the errors in it, and I do not intend to do so.
What I do intend, however, is for you to print a retraction, in
unambiguous terms, in a form acceptable to me, and to furnish to
me, in writing, an assurance that such will be printed in the next
Chapter Newsletter for Chapter 124. Failing that, I am going to sue
you in the District of Columbia for libel.

I have no intention of allowing you to falsely allege that I
have a conflict of interest in representing two of my best clients,
especially in an SBE publication. You are not entitled to damage my
reputation as a lawyer, which you have done in your article, or to
infer (without any basis at all) that I have violated the canons of
ethics governing attorneys, by which I govern my actions.

I will await your response.

Chris Imlay, N3AKD

And here is my reply:

Dear Mr. Imlay:

Thank you for reading my column in the SBE Chapter 124 Newsletter "Water Cooled".

I will not be giving you a retraction for any of my statements published in the July 1996 issue as you have requested. My statements are my personal opinions and views. I do apologize if you feel you have been hurt or damaged by my statements. My intent is to spur thought and action, not to personally attack. If your actions require others to think or act, don't you think they have the right to be informed? I believe my statements to be true and have been given no reason to retract them. My statements, by the way, are my own and don't necessarily reflect the views or opinions of Chapter 124, it's officers or members.

I am a member in good standing of both groups and do many hours of unpaid work for the benefit of both groups and their members. I take personal offense at the threat of lawsuit by their counsel. It is unprofessional and you are certainly coming close to conflict with your fiduciary duty to both groups by proposing to sue a member. Perhaps it is you who owe me, and the Society of Broadcast Engineers and the American Radio Relay League an explanation for your actions and your lack of action in certain critical spectrum protection matters.

After much discussion with SBE and ARRL BOD persons and members I have decided that the best way to deal with this matter is to offer you the chance to refute my statements or rebut, in your own words, in my column for publication in the next issue. In other words, please give yourself the chance to "educate me on the subject of my article to correct the errors in it".

I know you'll also agree that, if you choose to pursue litigation, the proper forum for legal action would be an Oregon court as the column was written and published here.

Sincerely,

James S. Kaplan KG7FU
Member SBE
Member ARRL
kg7fu@combined.com
http://users.aol.com/kg7fu/home.htm
KG7FU@N7DXT.#EUGEN.OR.USA.NOAM

4437. Re: cell phone conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: John Clements <jcclemen@trip.net>
Message-ID: <31EC373D.1D82@trip.net>
Source record: 104118

Danny Williams wrote:
>
> Has anyone considered on done a conversion of an old cellular phone to a
> 900 mhz. ham tranceiver? Any thoughts or comments appreciated.

Danny,

I'm also interested in old cell phone conversions. May also have access
to a few 800-900 MHz trunking radios. Maybe we can pool our surplus
stuff. A;lso interested in a 'lash-up' for a 900 MHz repeater. Let me
know of any info you get.

Thanks, WB5SAL JCC

4438. FS : Radio Equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: Raymond Hoopes Jr <sysop@southerntier.com>
Message-ID: <31EC2452.2188@southerntier.com>
Source record: 104119

Transciever 736R Yaesu with Microphone / New
Antennas 2M and 70CM yagi
SWR Meter
Dummy Load
Approx. 60 Feet 6013 coax
PK 88 packet Modem/New with 24v power supply

For Sale for $1800 or most offer.
E-Mail : sysop@southerntier.com
Phone : 716-973-3431
Raymond Hoopes Sr.

4439. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul16.125042.3848@ke4zv.atl.ga.us>
Source record: 104120
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In article <dCmwnClg18tQ068yn@kaiwan.com> alf@kaiwan.com (Alfred Lee) writes:
>
>Years ago (> 10+ years?) I read that it is quite possible to get
>transient spikes up to 80-90 V. Modern vehicular electrical
>system might do better. However, if you know that in some aspects
>the specifications for vehicular electronics system is more
>stringent that Mil Spec, you might get worried. Any one with some
>facts to fill in?

The vehicle power buss is very dirty. During starting, transients
of 300 volts are not uncommon. Any time an inductive load switches
on or off (a fan motor for example), there will be a nasty spike.
Any electronics used in a vehicle needs suppressors to protect it
from these spikes and surges. That's normally built into equipment
designed to operate in the auto environment. But if you build something
yourself to put in the car, make sure you use adequate suppression
and filtering.

It is also normal for the vehicle electrical buss to vary from as
low as 10.5 volts to as high as 14.8 volts during normal operation.
So use of regulation is highly recomended for equipment which won't
tolerate fairly wide voltage swings. Once the alternator has recharged
the battery from the starting drain, the voltage will normally stay
in the range of 13.8-14.2 volts on the vehicle buss. But during peak
charging, voltage will rise to 14.8 volts, and if you run equipment
with the engine off, the battery can go down to 10.5 volts as it
nears the point where it is so discharged that it won't start the
car. (You should never let a car battery discharge below 10.5 volts
or you'll shorten its life.)

A number of ham rigs get *real* squirrelly when the voltage drops
below 11 volts. You can get that at the rear terminals of the radio
even with the battery at full charge if you have significant resistance
in the wiring to the radio. 1.3 ohms will drop 1 volt for each ampere
of draw. With a radio requiring 10 amps, you could wind up with nearly
zero volts at the back of the equipment if the resistance of the total
wiring between the battery and the radio were only an ohm. You want
wiring that has a total resistance in the 1/100ths of an ohm range.
Use heavy cables and good connectors.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses

534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4440. crystal radio earphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <31EBE060.4B22@erols.com>
Source record: 104121

Anyone know a good source for those high impedance crystal earphones
like they used to put in crystal radio kits about 20 years ago?

73,

Jake Brodsky, AB3A
"Beware of the massive impossible!"

4441. Re: crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: Robert Beeman <auchstet@gate.net>
Message-ID: <Pine.A32.3.93.960716095839.51246A-100000@navajo.gate.net>
Source record: 104122

eGary:

About 30 years ago I built a "crystal set" that worked without an external antenna. What I did was wind the tuning coil around a wooden frame so that it was about 3 feet on a side. I seem to recall that the tuning capacitor was across the entire coil but the diode and headphone was tapped down to just a few turns. Enough energy was picked up by the loop (via the magnetic component of the RF field) to power the radio.

This was not terribly sensitive: I could hear WLS (50 KW about 25 miles away in Tinley Park, IL - a Chicago suburb) but it wasn't as loud as the locals. My "design" probably could have been optimized a lot.

The advantage of this is that it is directional and has no external antenna. You could wind the coil on the wall of a room, and if you were careful it would be real big but not too visible.

The disadvantage is obvious - the energy picked up is proportional to the area of the coil, assuming that the other parameters are adjusted right.

Bob Beeman K9PLH.

4442. Re: Need input on HF antenna idea

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: sherwood@oribi.cig.mot.com
Message-ID: <4sg9bt$jrc@trotsky.cig.mot.com>
Source record: 104123

In article <4se2tc$av@vnetnews.value.net> dkg@value.net (David Genrich) writes:

>Anyway, here is my idea: Disconnected the raingutter from the ground,
>then load the gutter up through a matching transformer. Would this

I have dont this! It does work. I load my gutters with a good antenna
tuner as a random wire. When I did it I had a long wire (50 ft) running
to the cold water pipe in my basement. The ground wire was probably more
of a counter pose than a ground, but it worked. I used the gutters for 80
and 160. They appeared to work much better on 80m then on 160. I never ran
more than 75 watts because I didnt want to burn the house down.....

chuck sherwood N9QZT

>

--

-- +--+
Chuck Sherwood | Life is a journey, not a destination. |

4443. AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: wlfuqu00@service1.UKy.EDU
Message-ID: <199607161802.OAA02035@service1.cc.uky.edu>
Source record: 104124

Why not try the following circuit to balance out the DC current in the
transformer.

```
Modulation PLATE
(AF power amp)______ _______|
s .p
6.3v E R 115 VOLT PRIMARY #1
C I
gnd M FILTERED HV
--------|________
--------| |
P ----- FILTER CAP
R -----
I 115 VOLT |
. M PRIMARY #2 GND
HV SUPPLY _____________|
```

THE DC CURRENT WILL BALANCE OUT. AND YOU ALSO GET SOME ADDITIONAL
FILTERING OF HV. THE DOTS INDICATE THE PHASE OF THE SECONDARIES.
THERE SHOULD BE VERY LITTLE RIPPLE CURRENT IN THE PRIMARY
IF IT HAS SUFFICIENT INDUCTANCE.
NEVER TRIED AN EMAIL BEFORE.

73
BILL

William L. Fuqua III P.E. E-mail WLFUQU00@POP.UKY.EDU Phone (606) 257-4155
Department of Physics and Astronomy CP-177 Chem. Phys. Bldg.
University of Kentucky , Lexington, Ky 40506-0055

4444. Re: cell phone conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.7.16.11.6.4.2443217854.3084001@hcol.humberc.on.ca>
Source record: 104125

> Danny Williams wrote:
> >
> > Has anyone considered on done a conversion of an old cellular phone to a
> > 900 mhz. ham tranceiver? Any thoughts or comments appreciated.
> > Danny
> > KB5WER

> I have. I have a friend who has. I'm working on it here.
> 73
> de ke4rgy
>

How about some details ?
I always thought it would be a real task since the VCO frequencies
are controlled by embedded One-Time-Programmable microcontrollers.
Full duplexing is also controlled by the micro.
Didn't you have to re-write some code and program a micro to replace
the original one which was likely a soldered in PLCC package
(a task in itself) ?

I did hear of some Hams that were part of a Cellular design team
who obviously had the knowledge and resources and did it.
I suspect the 'average ham' would otherwise find it unfeasible.

I'd be interested if someone knows of a particular model of cellphone
that is simplest to convert.

Hugh Duff VA3TO Toronto

• NFX v1.3 [000]

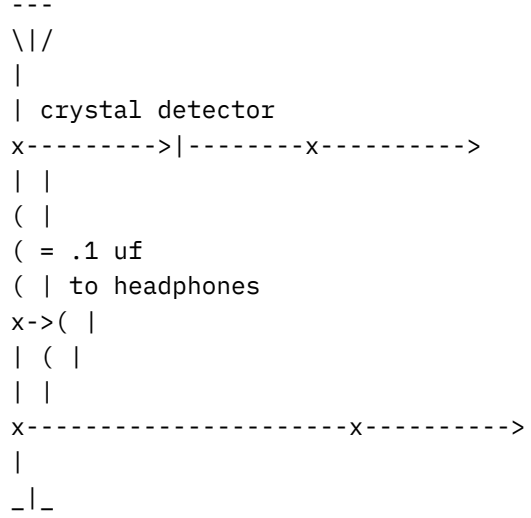
4445. Re: crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul16.172726.5403@ke4zv.atl.ga.us>
Source record: 104126

In article <Pine.A32.3.93.960716095839.51246A-100000@navajo.gate.net> Robert Beeman <auchstet@gate.net> writes:
>Gary:
>
>About 30 years ago I built a "crystal set" that worked without an external
>antenna. What I did was wind the tuning coil around a wooden frame so
>that it was about 3 feet on a side. I seem to recall that the tuning
>capacitor was across the entire coil but the diode and headphone was
>tapped down to just a few turns. Enough energy was picked up by the loop
>(via the magnetic component of the RF field) to power the radio.
>
>This was not terribly sensitive: I could hear WLS (50 KW about 25
>miles away in Tinley Park, IL - a Chicago suburb) but it wasn't as loud as
>the locals. My "design" probably could have been optimized a lot.
>
>The advantage of this is that it is directional and has no external
>antenna. You could wind the coil on the wall of a room, and if you were
>careful it would be real big but not too visible.
>
>The disadvantage is obvious - the energy picked up is proportional to the
>area of the coil, assuming that the other parameters are adjusted right.
>
>Bob Beeman K9PLH.

That's a good idea, Bob. A multiturn loop is a neat idea for combining
the antenna and coil into one component.

The "classic" crystal set doesn't have
a tunable tank, however. It looks like this



///

If the headphones are magnetic, the .1 uf capacitor is optional.

A tunable tank is a big step up in selectivity from the "classic"
crystal set shown above where the antenna is a self-resonant structure,
and represents the only selectivity in the circuit. Tapping *down*
on the loop for the detector and headphones also has the advantage of
matching to the lower impedance headphones we have today. The "classic"
circuit requires very high impedance headphones.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4446. Re: crystal radio earphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: protect@bright.net
Message-ID: <protect-1607961523010001@chil4-cs-13.dial.bright.net>
Source record: 104127

In article <31EBE060.4B22@erols.com>, Jake Brodsky <frussle@erols.com> wrote:

> Anyone know a good source for those high impedance crystal earphones
> like they used to put in crystal radio kits about 20 years ago?
>
> 73,
>
> Jake Brodsky, AB3A

Yes Try Antique Electronic Supply, 6221 S. Maple Ave., Tempe, AZ 85283
Phone 602-820-5411. They have phones and all other parts to build crystal
radions the old fashioned way, along with good crystal kits. I do not work
for them. Hope this helps.

Charles

4447. Re: crystal radio earphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <837555945snz@lfheller.demon.co.uk>
Source record: 104128

In article <31EBE060.4B22@erols.com> frussle@erols.com "Jake Brodsky" writes:

> Anyone know a good source for those high impedance crystal earphones
> like they used to put in crystal radio kits about 20 years ago?

In the UK crystal earpieces are available from Maplin Electronics.
Alternatively, I have heard of people using low impedance phones with a
transistor amplifier output transformer to give the impedance
conversion.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

4448. HELP MODS TM 733-A KENWOOD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-16 00:00:00 UTC
From: mcury@embratel.net.br
Message-ID: <4sha3v$cgg@rjo02.embratel.net.br>
Source record: 104129

hello, I wish transform my Kenwood TM 733 A USA version into
a GENERAL version.
I live i Brazil and here we work packet close 431Mhz.
General version works between 430Mhz and 450Mhz.
USA version start at 438Mhz.
Thanks,
Marcelo Cury - PY1TTO
mcury@embratel.net.br

4449. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: jjmartin@shore.net
Message-ID: <4sil7k$2f7@shore.shore.net>
Source record: 103981
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

"James S. Kaplan" <kg7fu@combined.com> wrote:

>ARRL lawyer to sue member
etc., etc.

Jim, could you spam a few more newsgroups please? There were several
that I subscribe to where I didn't see your post.

==========
cheers! Jim Martin, wk1v
Lowell, Mass, U.S.A.
http://www.shore.net/~jjmartin/jjm.htm

4450. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: jlindqui@qualcomm.com
Message-ID: <jlindqui.837622283@strange>
Source record: 103982
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

[Followups pureed]

>ARRL lawyer to sue member

>The following is a copy of a message I received today from
>ARRL General Counsel Christopher D. Imlay N3AKD:

>To: James S. Kaplan, KG7FU
>Copies: Mary Lou Brown, NM7N
> Terry Baun
> John Poray
>Date: July 16, 1996
>Re: Your article, SBE Chapter 124 Newsletter, July, 1996
>**

[snip]

>It is not useful for me to educate you on the subject of your
>article to correct the errors in it, and I do not intend to do so.
>What I do intend, however, is for you to print a retraction, in
>unambiguous terms, in a form acceptable to me, and to furnish to
>me, in writing, an assurance that such will be printed in the next
>Chapter Newsletter for Chapter 124. Failing that, I am going to sue
>you in the District of Columbia for libel.

Wait... he wants you to apologize and retract what you've said,
but he won't explain the reasons why such a retraction is
neccessary. He just throws out the threat of a libel suit.

Cute. And people wonder why the legal profession has such
a bad reputation...

JL

--
Jason A. Lindquist KB9LCL <*> "Unfortunately, no one is listening
jlindqui@qualcomm.com (business) to keystrokes at the moment. You
linky@uiuc.edu (personal) might as well stop typing" -- S. Dorner

--
Jason A. Lindquist KB9LCL <*> "Unfortunately, no one is listening
jlindqui@qualcomm.com (business) to keystrokes at the moment. You
linky@uiuc.edu (personal) might as well stop typing" -- S. Dorner

4451. Plans for Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: Shawn Kubik <skubik@mailhost.oxford.net>
Message-ID: <31ED66C7.1ADB@mailhost.oxford.net>
Source record: 103983

I am interested in building small transmiters and radios and antanna, if you know were I could get plans or if you have them please send them to me.

thanks

4452. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: wjs@en.com
Message-ID: <31ed540e.1038020@news.en.com>
Source record: 103984
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

ka1jy@usa.nai.net (Brian Ellsworth) wrote:

>On 13 Jul 1996 01:31:04 -0400, adkinsg@piranha.ianet.net (Garry P. Adkins)
>wrote:
>

>Hmm, let's see. 24 VDC on the source, 1.5 amps, and 15 vdc out, and a to-220
>case egh? I'd start saving for a nice service manual on that radio if i were
>you. When that regulator blows from the 14 watts you attempted to dissipate it
>may fail shorted and put 24 volts into your mobile. Either that or plan on some
>pretty fancy cooling system for that puppy, it's going to get screaming warm.
>
Shows what you know. Ya big dummy. If you drill a hole in the side of
your freezer to run the cords out of, you can put the whole damn power
supply in the freezer. Voiler!!! Your heat problem is solved!!

Sincerely,
Red Greene

4453. Ham-Homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: dougt@rsa.cirrus.COM
Message-ID: <199607171835.AA09388@rsa.rsa.cirrus.com>
Source record: 103985

Do you have a website, and if so, what is the address.
Tns.
Douglas Thomson, dougt@rsa.cirrus.com

4454. Re: homepage

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: keng@hybrid.com
Message-ID: <4sj6ni$bvu@dracula.hybrid.com>
Source record: 103986
Cross-posted to: alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

Dave Booth kc6wfs <booth@pactitle.com> wrote:

>Check out my home page if you get board!
>http://www.geocities.com/Hollywood/5860
>thanks..
>--
>Dave Booth
>kc6wfs

Is that a single-sided or double-sided board?

4455. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: KD1YV <jimkd1yv@ix.netcom.com>
Message-ID: <31ED8AA9.6CE2@ix.netcom.com>
Source record: 103987
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Gary Coffman wrote:
>
> In article <dCmwnClg18tQ068yn@kaiwan.com> alf@kaiwan.com (Alfred Lee) writes:
> >
> >Years ago (> 10+ years?) I read that it is quite possible to get
> >transient spikes up to 80-90 V. Modern vehicular electrical
> >system might do better. However, if you know that in some aspects
> >the specifications for vehicular electronics system is more
> >stringent that Mil Spec, you might get worried. Any one with some
> >facts to fill in?
>
> The vehicle power buss is very dirty. During starting, transients
> of 300 volts are not uncommon. Any time an inductive load switches
> on or off (a fan motor for example), there will be a nasty spike.
> Any electronics used in a vehicle needs suppressors to protect it
> from these spikes and surges. That's normally built into equipment
> designed to operate in the auto environment. But if you build something
> yourself to put in the car, make sure you use adequate suppression
> and filtering.

I totally agree. The first wiper-delay I built and installed in my '74 Chevy Nova worked perfectly. The second, using the identical circuit, installed in an '80 Chevy Malibu was flaky as hell. Turned out that the windshield-wiper motor, when it shut off, was spiking the buss with a huge, negative-going pulse (it blanked my scope even on it's highest voltage setting, 100V I think.)

That was a low-draw circuit, just a 555 and relay, so I build a simple L-C low-pass filter to clean it up. Neither the L nor the C by itself was enough.

Now my question is, with a high draw device such as a transmitter, is there a simple, passive filter that will accomplish the goal? Seems like the series inductor would have to use some pretty hefty gauge wire.

73 de Jim, KD1YV

4456. Re: Recommendations for mircrostripline design software packages?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: darkstar@superlink.net
Message-ID: <4sjgi3$cf9@earth.superlink.net>
Source record: 103988
Cross-posted to: alt.eletronics.manufacture.circuitboard,alt.engineering.electrical,sci.electronics.design,sci.electronics.cad,sci.electronnics.misc,rec.radio.amateur.homebrew

kochen@ami1.bwi.wec.com (Don Kochen) wrote:
>In article <DuB6vB.9Av@iquest.net> n9xlt@holli.com (David A. Wallace) writes:

>>Does anyone have any recommendations for software used in designing
>>microstripline circuit boards? Urls, catologues, packages, etc... Any
>>information would be greatly appriciated.
>> N9XLT (David A. Wallace)
>> n9xlt@holli.com
>> Kokomo, In.

>Any answer depends greatly on:
> 1) Exactly what do you want to do?
> Do you want both electrical analysis/synthesis or simply
> some sort of artwork layout package?
2) How much money are you willing to spend?
> You can find something for any budget:
> $1K - $10K Touchstone, Eagleware, Super-Compact, etc for analysis
> Lots of PC board Layout software and CAD.
My former employer (Vectronics Microwave Corp.) used Super-Compact. It
worked well for us.

J. Pindar (darkstar@superlink.net)

*** darkstar@superlink.net '73 ironhead '67 Tiger chopper
*** FLIP YER PATCH ! AND YER AMERICAN FLAG !
*** Ride to Work - Work to Ride - Motorcycling is Not a Sport
*** chop: to cut, cut off, reduce in size or length, remove

4457. Re: Help: Building a repeater system

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: Chris Boone <cboone@earthlink.net>
Message-ID: <31ED97C2.21A1@earthlink.net>
Source record: 103989

KC8DML wrote:
>
> I was told by someone that you could somehow link two base station or
> mobile radios like the Motorola Mocom 70 and it could operate like a
> repeater. I am an amatuer radio operator and I am trying to put together a
> radio system for my dad's business on high band (148-174).

Ahhh Rob.....
Repeaters in VHF High band are NOT that easy to get licensed or
coordinated in the major metro areas...The channels are crowded and hard
to come by nowadays....
If you havent gotten a license for the system, I wouldnt bother looking
for gear....you'll have plenty of time for that!
(Besides there is plenty of GE MSTR II, etc on the market that works
just fine! Rptrs, bases, mobiles converted to rptrs, etc)

>I am also
> looking for any new or used VHF radio equipment, (handhelds, mobiles, base
> stations, pagers(ex. Minitor II), test equipment, and possible ideas on
> what kind of antenna system I should use (1/4 wave vertical with ground
> radials, ground plane, or just a simple dipole???). Would I need two
> seperate antennas???
>
> THX de KC8DML
> Rob
> Chardon, Ohio
> 147.21+ 444.65+
> 147.015+ 444.375+
> 146.76- 146.94-
> In the Cleveland Area

Chris
WB5ITT
PG-9-5322 Commercial
224.8/444.8 Conroe/Houston, TX WB5ITT
224.5/444.5 Beaumont, TX WB5ITT
and various other rptr systems

4458. CW Crystal Filters & AGC Chips

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: sutin@helios.ucolick.org
Message-ID: <4sjidp$2ud@darkstar.ucsc.edu>
Source record: 103990

I intend to homebrew a 50 MHz CW tranceiver out of block parts, and
then upgrade the pieces as I go. The parts I can't find easily are
the filters and the AGC circuit.

I am looking for a small-quantity supplier for CW (500 Hz) crystal
filters, preferably near 25-30 MHz, but 8-10 MHz or elsewhere is ok.
I will design around what I can find.

I am also looking for an AGC chip -- a chip with the IF amp and an
audio input, which does all of the AGC computations internally. I
don't know if these exist (perhaps as part of a larger circuit).

Thanks!

Brian Sutin KD6TLA sutin@ucolick.org
Lick Observatory, UCSC Santa Cruz, CA 95064
Fred: "May I rescue you?" `Top Hat,' RKO 1935
Ginger: "No, thank you. I prefer being in distress."

4459. Re: Help wanted with G4WIM 6mtr/4mtr m/mode project.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: jdmjr@airmail.net
Message-ID: <4shg0m$t42@library.airnews.net>
Source record: 103991

len@mazak.demon.co.uk (Len) wrote:

>Hi, need help with the above project.

>I have got probs with the CPU board,.

>The radio will tune up, but just keeps on tuning up when i tune down,
>using an incremental encoder.

>The radio tunes up and down ok with the mic buttons.

>Any help or tips from anyone who has built this project, would be very
>welcome......

>I am posting this message on behalf of G7ELV... Peter..

>I will pass on any replys to him....

>Cheers from Len.... and G7ELV..Peter....

can't help you , but the project sounds neat. would like to know more
about it. thanks N5BGQ

4460. Brazil Ham radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: ps7ab@digi.COM.BR
Message-ID: <31ECF99B.4DC3@digi.com.br>
Source record: 103992

Natal City, Brazil, July/96

Hi my friend:

Please, call on and divulge the BRAZIL HAM PAGE, in the
following URL:

http://www.digi.com.br/users/brazil/ps7ab.html

The page is in english and portuguese, and my intent is to
provide a safe site to access a wide variety of information
about Radioamateur and SWL in Brazil.

Mny tnks, 73.

PS7AB, Rony.
ps7ab@digi.com.br

4461. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: jimo@vt.edu
Message-ID: <4sj3id$sce@solaris.cc.vt.edu>
Source record: 103993
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Mr. Martin, why do you consider Jim's article as SPAM?

Thank you very much, Jim Overfelt WD4JYZ

RRL lawyer to sue member
etc., etc.

Jim, could you spam a few more newsgroups please? There were several
that I subscribe to where I didn't see your post.

==========
cheers! Jim Martin, wk1v
Lowell, Mass, U.S.A.
http://www.shore.net/~jjmartin/jjm.htm

4462. Re: Problem constructing a radiolink

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: Mike Willis <mjw@rcru.rl.ac.uk>
Message-ID: <31EC98C9.4F0B@rcru.rl.ac.uk>
Source record: 103994

Frank Dinger wrote:
>
> In message <4sg5rj$t3l@erinews.ericsson.se>
> qpkmima@epk.ericsson.se (Mikael Martinsson) writes:
>
snip
>
> >Michael , Callsign ???
>
> =============
> Michael, Are you a licenced radio amateur ? I thought that in Sweden
> ,being in ITU Zone 1 ,the 430-440MHz segment is a Hamband ; or is
> that band in your country shared with other services (educational
> organisations etc ?)
>
There are some spot frequencies available in that band for low power devices in the UK and probably Sweeden as well. There is also a band at 418 MHz. You can buy ready made type approved transmitters and receivers. You CAN NOT build your own non-approved equipment for these allocations. The available radios are quite cheap in the UK, 20 pounds or so, in Sweedish terms, say the same as 6 large beers.

Mike

4463. Hamfest july 27th Tampa, Fl (url)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: "W. Douglass" <douglass@suntan.eng.usf.edu>
Message-ID: <Pine.SUN.3.94.960717002017.26165A-100000@suntan>
Source record: 103995
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.misc,rec.radio.amateur.swap,rec.radio.amateur.homebrew

We have a web site for the hamfest....see below

http://home.aol.com/doug03

Well.... if you get this and still need more info let me know.

Don't forget the FIFTH ANNUAL USF "Last Minute" HAMFEST
Sat July 27th 9am to 3pm
in the ice cold air conditioning...

Hosted by the University of South Florida Radio and Electronics Club.

Admission $3.75
1st swap table $10 including ticket. Additional tables $10 each.
Call 1st for table reservations.
Call especially if you need more than 7 tables.
---
call (813) 979-0033 after 5pm

USF is easily located on Fletcher Ave between I-75 and I-275 in Tampa.
Enter campus on North Palm Dr. follow the signs to the
USF Special Events Center.

Just close enough to Busch Gardens to let the family go there while you play!

TESTING WILL TAKE PLACE AT 11AM.

TALK IN 147.24+, 146.94-,and 442.275+
Vendors may setup FRI NIGHT 6-9pm and SAT MORN 8-9am.

SEE YOU THERE!!!!

for more info, direct questions to: douglass@eng.usf.edu
See our web page for more information and maps.

USF Hamfest Web Page: http://home.aol.com/doug03

4464. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: drgrant@zipnet.net
Message-ID: <31ed1ff4.1889282@news.zipnet.net>
Source record: 103996
Cross-posted to: rec.radio.cb,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

On 13 Jul 1996 17:45:03 -0400, adkinsg@piranha.ianet.net (Garry P. Adkins) wrote:

:>>There is a very common 15v regulator available, would that
:>>be too far above the 13.8? I'm not aware of any 13.8v
:>>parts.
:>
:>
:>Through my experience, I would say your fine either way... 12V and
:>13.8V have pretty much become interchangable without a problem.
:>and if you have a tolerance of 1.8V, and there is no problem, then
:>15V should be no problem as well, after all, it's less of a difference
:>than 12 and 13.8... As long as you're in the ballpark you should
:>be ok. Just don't attempt 24V. :)
:
:Agreed. I've been wondering... How close to dead-on is a car's
:13.8? I bet at low rpm, it gets a bit low... How about on the high
:side? Does it ever get up to 15vdc?
:
:I'll have to plug my dmm into the cig lighter and watch it on a few
:trips to see what happens.
:
I dunno about you- but most the cars I get into have about 14.5V on the plug while running.

4465. Re: 15V too much for mobile radio?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: jdc@cci.com
Message-ID: <Dup4Is.Ktu@sunsrvr6.cci.com>
Source record: 103997
Cross-posted to: rec.radio.amateur.equipment,rec.radio.amateur.homebrew

>In <4s7cao$deo@piranha.ianet.net> adkinsg@piranha.ianet.net (Garry P.
>Adkins) writes:
>
>Hi!
>
>I recently found a 24VDC power supply in my garage that
>came from an old monitor. I think I'm going to use it
>to power a cheap little radio for base station use. (It's
>a mobile radio, btw)
>
>I'm thinking along the lines of using one of the TO-220 case
>voltage regulator (maybe adding some big caps for ripple)
>to bring the 24V down to 12 or 15 volts. My concern is that
>12V may not be sufficient for full power transmit since the
>radio expects 13.8. (The radio only pulls 1.5A at max
>modulation, so it doesn't need a ton of juice)
>
>There is a very common 15v regulator available, would that
>be too far above the 13.8? I'm not aware of any 13.8v
>parts.
>
>Any help much appriciated!
>

One cheap/easy way to get close is using a TO-220 7815 (15 volts) to
run 2N3055 pass transistors. You get 14.1 to 14.2 volts. Pass transistors
can be run in parallel for more current. Don't forget emitter resistors.
Check the ARRL handbook 28-volt regulator article for an example of
running a bunch of 2N3055's off an IC regulator.

I use a 7815 and 8 2N3055's in a homebrew supply, and it's worked well.

73..Jim N2VNO

4466. Phasing Coils for 2m/440 Antennas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: cbrown@matnet.com
Message-ID: <7117cc$b246.32e@NEWS>
Source record: 103998

[Article crossposted from
rec.radio.amateur.antenna,rec.radio.amateur.misc,rec.radio.amateur.equipment]
[Author was Christopher E. Brown]
[Posted on Wed, 17 Jul 1996 20:21:58 GMT]

Greetings all, I am looking for info on the construction of phasing coils (pitch/spacing/form dia/wire gauge/etc...) for 6m and up antennas (or down, though I am assuming the wavelength vs. material size would effect things on HF).

Also info on the pros/cons of using phasing coils or shorted stub delays. Does the better element spacing of the coil offset the radation from the coil, or is a shorted stub (at 90deg to the elements) better. How much does the position of the stub (at 90deg or folded against the element) effect antenna pattern?

All assumtions are made for 2 - 4 element VHF/UHF verticals.

73 de WL7CLA
cbrown@matnet.com

--

Christopher E. Brown WL7CLA Lostnet Systems Administration

<cbrown@thor.lostnet.org>

4467. FAR Circuits Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: Paul Knight <pknight@elec.ctl.etn.com>
Message-ID: <31ED70A9.6EC6@elec.ctl.etn.com>
Source record: 103999

Greetings! Could someone drop me a note with the address for FAR Circuits, the Illinois-based PC board vendor who develops many of the boards found in QST projects?

--
Thanks!

Paul Knight WD8DKY
pknight@elec.ctl.etn.com

-or-

PEKnSLK@aol.com

4468. Re: crystal radio earphones

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: rossi@VFL.Paramax.COM
Message-ID: <1996Jul17.205703.18770@VFL.Paramax.COM>
Source record: 104000

>In article <31EBE060.4B22@erols.com> frussle@erols.com "Jake Brodsky" writes:
>
>> Anyone know a good source for those high impedance crystal earphones
>> like they used to put in crystal radio kits about 20 years ago?

The earpiece from an old telephone handset works pretty good. You know,
the old standard Western Electric model from the 50's 60's and 70's.

One from an old rotary dial phone would be perfect.

Pete Rossi - WA3NNA
rossi@vfl.paramax.com

4469. Re: Want to build stereo amp- where to start?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4sjnau$dfo@synthemesc.insync.net>
Source record: 104001

bigdick@uclink3.berkeley.edu (Bigdick McGee) wrote:

+-> I would like to build my own 80-150 watt per channel amplifier fro
my
+-> home audio system. I just don't know where to start. Can anyone

+-> recommend a good reference for starting such a project? Something
that
+-> will really lead me along with a project that I can improve
myself.

+-> Thanks, Jed <jed@csua.berkeley.edu>

My recommendation would be to go to the rec.audio.* groups. They will
be far more helpful to you there.

Erikc

+-> --
+->
****
+-> Hey Der, Polka Boy, Go Home and Suck a Beer * Go
Bears!
+-> Hey Der, Bratwurst Head, Go Drive Your Old John Deere * (both
of 'em)
+-> Yah Hey, Keep Your Women Away, The Smell Will Make Us Cry *

Anything critical said of me by a religious zealot only
further convinces me that I am on the right path to truth,
inner peace, enlightenment, and other such delights. -- Me

4470. Hamfest

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-17 00:00:00 UTC
From: Tim <towers@futureone.com>
Message-ID: <01bb7445.16f8f340$c5b667ce@observer>
Source record: 104002
Cross-posted to: rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.digital,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

```
Hamfest, Fort Tuthill In Flagstaff, Arizona
July 19, 20, 21, 1996
Arizona's Largest Hamfest

For More Information: http://www.geocities.com/RainForest/2425/
```

4471. Re: B&W Coil Stock Supplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4sl70q$kc0@newsbf02.news.aol.com>
Source record: 104003

In article <4se5tb$add@itnews.sc.intel.com>, Cecil Moore
<cmoore@sedona.intel.com> writes:

>
>Surplus Sales of Nebraska advertises such in QST. (402)346-4750
>
>73, Cecil, W6RCA, OOTC (not speaking for my employer)
>
>

Ameriton has some sizes in stock, and they are much more reasonable in
price.

Surplus sales appears to have high overhead.

73 Tom

4472. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4sl8o1$kp7@newsbf02.news.aol.com>
Source record: 104004

Hi All,

In article <4sefsm$a5r@blixen.aquilagroup.com>, kferguson@aquilagroup.com
(Kevin AstirCS "1U" KO0B) writes:

>Idea:
>
>Run a fairly high DC current through the low impedance side of
>transformer to cancel the flux due to plate current through high
>impedance side. The DC plate current on "true AM" final (as apposed
>to DX-60 type controlled carrier stuff) is constant.

While the average dc current is close to the same value, and the opposing
flux would likely work, it would also increase transformer heating from
I^2 R losses. The heat may cause additional problems.

>The advantage here is that the required impedance of the audio choke
>would be lower, and the choke would be at low voltage, so insulation
>requirement is eased. Given a sufficiently high voltage, you could
>just use a high value resistor here, instead of a choke.

Dissipation problems would oppose any advantage. The low impedance
transformer winding would require very high current. The series resistance
would now be critical, instead of series impedance.

>It doesn't have to be exact, youll get a little distortion as you bump
>against saturation one way or the other, but the other polarity should
>reset the core nicely. I guess music broadcasters would object, but I
>don't see losing the peak of one sine wave now and again as being much
>a detriment in a communications application.

I do. People operate up and down the band from each other. Every time the
transformer saturated, distortion products would modulate the PA. Splatter
would be produced.

>If the transformer has a third winding, this could be used for the
>balance current, eliminating the need for coupling cap to audio amp.
>
>If you use a DC coupled audio amp, then you could just put some DC
>bias on the amp's output...no choke!

And watch the audio output transistors dissipation and distortion increase
dramatically!

>Maybe you could encorporate low impedance side of transformer into
>collector circuit of a class A audio amp, thus eliminating need for
>seperate choke, coupling caps etc......getting rather an elegant

>approach at this point!

The problem with this approach is power dissipation in the class A amplifier.

This is a novel approach, it shows creativity. Unfortunately it trades insulation problems off for heat problems.

IMHO, ANYONE using a spacewasting mode like AM should pay attention to distortion and frequency response problems. The stuff is bad enough, without paying strict attention to bandwidth..

73 Tom

4473. Re: B&W Coil Stock Supplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4sl852$kki@newsbf02.news.aol.com>
Source record: 104005

In article <4se5tb$add@itnews.sc.intel.com>, Cecil Moore
<cmoore@sedona.intel.com> writes:

>
>Surplus Sales of Nebraska advertises such in QST. (402)346-4750
>
>73, Cecil, W6RCA, OOTC (not speaking for my employer)

Ameritron also stocks some sizes at a more reasonable price.

Surplus Sales must have high overhead.

73 Tom

4474. ICOM R-7000 12 VOLT DC OPERATION

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: billh@flinet.com
Message-ID: <4sk2mk$gu@news.flinet.com>
Source record: 104006

Does anyone know the wiring of this radio for 12 volts dc?

Icom offers a kit for $30.00.

Seems like it should be simple. Any help???

Thanks. Bill Hayhurst KE4IDU

4475. Re: Good Explanation of Q in an antenna ???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4sl9tu$l7q@newsbf02.news.aol.com>
Source record: 104007

In article <charles1DupLGD.Ion@netcom.com>, charles1@netcom.com (charles copeland) writes:

>>So, Charles,
>> Do you really think that my 20 meter dipole at 23 feet
>>is less efficient than the Carolina Bug Catcher mobile Hi Q whip
>>since it (my 20 meter dipole) exhibits lower Q than the Bug Catcher.?
>
>I said no such thing. The comparison referred to mobile whips.
>
>>I explained Q as the fellow requested (not its repercussions etc...)
>
>It needed clarification.

Hi All,

Q can not be directly related to efficiency, in a mobile antenna or otherwise.

Q is the ratio of resistance to reactance in the antenna, but the resistance can be either radiation resistance (good) or loss resistance (bad).

Let me give examples of a mobile antenna with high Q that is bad, and low Q that is good.

Bad antenna.

An eight foot tall antenna very thick on the bottom and thin at the top. It has a lot of capacitance across the coil (like the Hustler with it's enameled wire and pretty metal end caps on the coil), the coil is low in the structure, and there is no capacitance hat. Here's what happens.

1.) The stray C across the coil increases coil circulating currents and losses while decreasing the bandwidth.

2.) The low coil position results in a lowering of radiation resistance and efficiency.

3.) The lack of a hat means the coil has high reactance, and since Q is X/R in the series circuit, Q is higher than it would be with a hat.

A good antenna with low Q. An antenna with a 2 foot tall and 4 foot wide cage on the top and great effort to minimize stray C across the coil, and a reasonable sized mast that has low distributed capacitance.

1.) Stray C across the coil is minimal compared to the antenna's end capacitance. The coil handles necessary current only, losses are lower and

BW larger!

2.) Coil position isn't critical because the large end capacitance terminates the current. Radiation resistance is over twice as high as in the first antenna.

3.) The large end capacitance reduces the amount of inductance required, so BW is greater.

Let me give fixed antenna examples:

A 1/4 wave vertical antenna with a good radial system (low Q, good efficiency), and a 1/4 wave vertical with no radial system and an end loading coil with no hat (high Q, poor efficiency).

As you can see, it can go either way with any antenna. Q has no universally true relationship to efficiency.

73 Tom

4476. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: kferguson@aquilagroup.com
Message-ID: <4sm86s$gnr@blixen.aquilagroup.com>
Source record: 104008

w8jitom@aol.com (W8JI Tom) wrote:
.....
>This is a novel approach, it shows creativity. Unfortunately it trades
>insulation problems off for heat problems.
....

Hi Tom.

I agree, 100%, that you have stated facts, but have a different
opinion of them:

Consider that heat problems give a fair amout of warning , and respond
to brute force attack (big 'sinks and fans), while insulation problems
occur suddenly, require significantly more finess to fix, and pose
immediate hazards to safety. You can put your finger on a part and
tell if it is running a bit too warm, but how to tell if you are only
50V shy of breakdown? Which one is a homebrewer better equiped to
deal with?

I am talking here only about the dissipation in audio amp. or current
limiting resistors. If _quadrupling_ the I2R losses in the
transformer exceeds it's ratings, then of course you are sunk....and
are back to an insulation problem when the varnish melts!

It always happens when you use something for an application other than
for which it was designed:

You end up complicating the rest of the system to make up for the
inadiquacys of the "shadetree special" component. Figuring out how
to make the end system cost less, or perform better is a big part of
homebrewing. Were this not true, nobody would have ever used sweep
tubes for finals, plumbing fittings for antennas, pole pigs for HV
supplies, or transformers for filter chokes. In each case, there is a
better component for the job, albeit with greater price, and lower
availability.

Due to noise from AF amplifier, don't you want some low pass AF
filtering on the high voltage side anyway? As long as you limit the
modulating voltage to the required bandwidth, you are not wasting
spectrum untill voice gets too distorted to understand, requiring
repeating of messages. Isn't splatter normally associated with
overmodulation, which isn't what happens when transformer saturates
(modulation drops to zero)...Is this really more frequent or more
bandwidth than a click from a mike switch?

Oh well, I see we agree on that antenna Q thread.

Good to have somebody to argue with, who grasps the subject well enough to be worth it!

-KF-

4477. Re: crystal radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <31EF1224.39B8@wenzel.com>
Source record: 104009

Excuse me if this is a duplicate reply but: I have plans for a crystal radio in our technical library at www.wenzel.com. The loading and thus the selectivity is adjustable.

Charles

4478. HELP WITH MIC WIRING

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: Aubrey Hawkins <aubreyh@why.net>
Message-ID: <31EEEB66.12D2@why.net>
Source record: 104010

I am trying to hook an auto patch up to my HTX-212 (Radio Shack). ANy suggestions?

Thanks

Aubrey Hawkins
KC5USI
Dallas

4479. Re: cell phone conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: Jim <jim.parnell@nzart.org.nz>
Message-ID: <31EDF148.A98@nzart.org.nz>
Source record: 104011

Michael Herring wrote:
>
> Danny Williams wrote:
> >
> > Has anyone considered on done a conversion of an old cellular phone to a
> > 900 mhz. ham tranceiver? Any thoughts or comments appreciated.
> > Danny
> > KB5WER
> I have. I have a friend who has. I'm working on it here.
> 73
> de ke4rgyMichael.

I have read the above with interest.

It seems possible to poke the right numbers into the phone to get the
right frequencies, but how do you adjust the filters at the antenna end
to bring the sets out of the phone band and into the ham bend?

You just about wreck them extracting them and pulling them apart, and
then you have to trim the metallisation to pull the filters over to the
right frequencies.

Perhaps you can purchase replacement filters???

73,
Jim.parnell@nzart.org.nz
ZL2APE@ZL2WA.#60.NZL.OC

4480. Re: very low frequency recievers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: lrware@aol.com
Message-ID: <4skecc$bmp@newsbf02.news.aol.com>
Source record: 104012

In article <thomas.g.booth-150796121927@160.205.101.24>,
thomas.g.booth@den.mmc.com (Booth, Thomas G) writes:

> Unlike Larry, I happen to be blessed
>(?) w/ being approx. 65 mi. from the WWVB transmitter site; I had to
really
>reduce the receiver gain to comply w/ Bob R.'s alignment criteria.
When I lived and worked in Denver, our shop reciever had a signal
you could draw an arc with... :-)

Bob's design works very well for most locations, I had several long
chats (threads on e-mail ;-) with him over a period of months.
If anyone is really interested, I can send send you several suggested
mods for weak signal areas... Two suggested by him and two of my
own design...
BTW: The commerical unit I bought was a Fluke 207-5, a fine piece
of equipment once I fixed it. The 207 series and the HP 117's are
both very good units now getting resonable on the used market.
-Larry

#
-Larry Ware, lrware@aol.com
collector of Vintage Electronic Test Equipment
(Tek, HP, the good stuff!)
Communications Receivers, (Vacuum Tube Boatanchors)
old Electronics Books & Manuals
and Phone-Cards.
What have you got?
#

4481. Re: Help!!! Phone # for Jan crystals .....?????

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: Paul Anderson <pander01@harris.com>
Message-ID: <31EE251A.7230@harris.com>
Source record: 104013

vigilant wrote:
>
> Does anyone out there have the phone number for jan crystals????? I found
> them listed on the net but when I went to the address...they weren't
> there....I am guessing that they "moved" their site or went out of
> business or something.....thanks in
> advance.

Try 1-800-JAN-XTAL

--

7777777 3333333 **
77 33 ** Paul Anderson, AB4VA **
77 33 ** pander01@harris.com **
77 33 ** AB4VA @ KT4DI.#MLBFL.FL.USA.NA **
77 33 33 **
77 33

4482. Re: B&W Coil Stock Supplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: Cecil Moore <cmoore@sedona.intel.com>
Message-ID: <31EE5257.29D@sedona.intel.com>
Source record: 104014

W8JI Tom wrote:

> Ameritron also stocks some sizes at a more reasonable price.

Hi Tim, what diameter, wire size, TPI, and inductance would you recommend for the loading coil in an elongated 75m mobile antenna with lots of top hat capacitance?

thanks and 73, Cecil, W6RCA, OOTC (not speaking for my employer)

4483. Re: Help: Building a repeater system

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <31EE8264.286F@rrgroup.com>
Source record: 104015

KC8DML wrote:
>
> I was told by someone that you could somehow link two base station or
> mobile radios like the Motorola Mocom 70 and it could operate like a
> repeater. I am an amatuer radio operator and I am trying to put together a
> radio system for my dad's business on high band (148-174). I am also
> looking for any new or used VHF radio equipment, (handhelds, mobiles, base
> stations, pagers(ex. Minitor II), test equipment, and possible ideas on
> what kind of antenna system I should use (1/4 wave vertical with ground
> radials, ground plane, or just a simple dipole???). Would I need two
> seperate antennas???
>

The ARRL handbook has a section on repeaters that should answer
many of your questions.

73 de KB9JTT

4484. anyone have source for 8930 pulls

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4skfs7$bnr@crash.microserve.net>
Source record: 104016

Hello from KD3SH
Anyone out there in amateur or commercial radio land have a cheap source of 8930 pullouts? I only need one or two and can by them new for about $110, but if you have good used (no junk!) for $30-50, I would be interested. Using it for 20m homebrew amp that currently has 4cx250.
TNX and 73 Don

4485. Re: FAR Circuits Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: thomas.g.booth@den.mmc.com
Message-ID: <thomas.g.booth-180796145619@160.205.101.24>
Source record: 104017

```
FAR Circuits
18N640 Field Court
Dundee, Ill. 60118

TGB

\\ The opinions expressed herein are my own. //
```

4486. buidling a transmiter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: Shawn Kubik <skubik@mailhost.oxford.net>
Message-ID: <31EEEA66.5B2B@mailhost.oxford.net>
Source record: 104018

I am looking for plans to build a FM Transmiter. I realy what plans for
a transmiter no mater how big or small

thanks

4487. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-18 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4sle1c$l38@opera.iinet.net.au>
Source record: 104019

jeffd@coriolis.com (Jeff Duntemann) wrote:

>Here's a notion I had a long time ago and haven't gotten around to
>trying...

Jeff
What about trying a pulse width modulation system which is what the
commercial AM stations do nowadays.(so I understand) The audio is
converted to a digital signal of pulses (at say 100KHz) with width
proportional to the audio voltage. These drive a high voltage FET
switching the plate voltage. The FET is follwed by a suitable low
pass filter to get rid of the 100 KHz sidebands.
(I must admit I havent done this however)
I have a hankering to get on 80 metres AM...

Richard

VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

4488. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: nickkral@america.CS.Berkeley.EDU
Message-ID: <4sp57k$bl6@agate.berkeley.edu>
Source record: 103881
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <4sosqb$n69@rosebud.sdsc.edu>, Stewart Teaze <teazes@gat.com> wrote:
>However, why worry about amateur compliance anyway?
>The 900mhz band is now available for public data communications use,
>and would probably work for Nick's application.

Actually, I was worried about compilence with existing laws. I didn't
want to break any amateur packet laws, or have the FCC come knocking
down my door due to an illegal transmitter. :) I also don't want
to have to sensor everything that crosses the wire. As you and others
have pointed out, that pretty much eliminates me from the amateur band.

I have no intention of running an illegal setup, nor corrupting the
amateur bands.

I just asked in these newsgroup because, well, you don't find
many newsgroups on the internet called
alt.how.do.i.build.a.microwave.transmitter.for.t1.speed. :)
I'll be sticking to the legal to use bands.

Take care,
-- Nick Kralevich
nickkral@cory.eecs.berkeley.edu

4489. re:AM Modulation with SS Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: Michael.Black@juxta.mba.org
Message-ID: <d10_9607191845@mba.mba.org>
Source record: 103882

dougt@rsa.cirrus.COM (Doug Thomson) had some comments about
using a filament transformer backwards to modulate a 6146,
adding that "The frequency response is not very good".

Back when AM was popular, you'd see tricks in the ham magazines
on using power transformers as modulation transformers. At
least once, I saw the suggestion of using 400 cycle surplus
(from airplane military surplus) transformers for modulation
transformers, because their higher operating frequency was
better suited to modulation purposes. Besides, the 400 cycle
frequency made them less bulky, and there wasn't a lot of practical
use for the 400 cycle transformers, though they were cheap.

There probably are still alot of these old transformers lying
around as doorstops and whatever that would still work well
in this idea.

Michael VE2BVW
--
| Return Address: Michael.Black@juxta.mba.org
| Standard disclaimer: The views of this user are strictly their own.

4490. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: bboone@mindspring.com
Message-ID: <4sp5jr$16ri@mule0.mindspring.com>
Source record: 103883

If not a spam, it is most definatly off-topic here, as it has nothing
to do with homebrew and is not technical in any way.

Bobby - KR4BU

>jimo@vt.edu (Jim Overfelt) wrote:

>Mr. Martin, why do you consider Jim's article as SPAM?

>Thank you very much, Jim Overfelt WD4JYZ

>RRL lawyer to sue member
> etc., etc.

>Jim, could you spam a few more newsgroups please? There were several
>that I subscribe to where I didn't see your post.

>==
>cheers! Jim Martin, wk1v
>Lowell, Mass, U.S.A.
>http://www.shore.net/~jjmartin/jjm.htm

4491. Re: Power supplies for 4CX250 or 4X150.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jul19.103658.48366@ucl.ac.uk>
Source record: 103884

In article 85EE722F012E0F00@seitz.com, CHRIS@seitz.COM (R Chris Ross) writes:
>
> I have been collecting parts for an amplifier using a 4X150 on
> 6 meters. The plate supply is easy but I'm not too sure about the
> grids. One supply is about 300 VDC at ~ 50 mA regulated and the
> other is at aboth -75 VDC but I don't know the current draw. Is the
> 300 V supply right and what is the current level on the -75 V supply.
>
> One of the things that I was looking at is that it would be
> extremely easy for me to design a switching supply for the grid
> supplies running off of say 12 VDC. This could lead to later
> designing a 12 VDC to ~1500 VDC plate supply for portable operation.
> My only problen is not being familiar with the requitements for these
> supplies and old designs don't worry about it.

I dont know the 4X150 - its an old glass tube that wont take as much stick as a newer ceramic one. Hence this advice is based on 4CX250's, but I think its similar in principle. The simple and best answer is to suggest you get the data sheet for the tube you use. Eimac will send you one free of charge, even for an obsolete tube such as the 4X150. The voltages, for different classes will be on the this.

First, for class AB1, there should be no grid current, so the power supply does not to source or sink much at all. If your supply can source 1mA, it will be fine. If you run class C its a different matter. There you draw lots of grid current. The 4CX250 takes about 30mA in class C, if memory serves me right, but check the data sheet - that will tell you. The voltage of -75 sounds reasonable, but I have no idea if its right for a 4X150 - check the data sheet.

For class AB1, the grid voltage should be set to maintain a given standing current, which for a 4CX250B is 100 mA. Hence you should not aim to have a particular grid bias, but aim to alter the grid bias so the tube draws the correct amount of standing current. For class C, you must cut the tube off. I should add that I dont know if a 4X150 can be used in both classes AB1 and C.

For screen current, you have to be more careful. The screeen current goes both positive (ie draw current) and negative - ie the tube puts current into your power supply. If memory serves me right, the 4CX250B can source upto 20mA, so the power supply must be able to keep the voltage constant, even with this screen current. The tube can, under different circumstances, draw 20mA or so. Hence the PSU must be able to source or sink 20mA or so. The easiest way to do this (but not the best), is to use a zener supply capable of supplying 40mA, then put a resistor across it that draws 20mA. Now it can source or

sink 20mA. A better way is to use a decent screen power supply - there are many published.

HT's are not quite as easy as you suggest. Make sure for one that you fuse it correctly, and that your anode current meter is not in the + lead, at nearly 2kV above chassis. Have you limited the switch on surge to protect the caps and diodes? Have you a decent earth ?

John Nelson, GW4FRX has written much on the 4CX250's and 4CX350's in the VHF/UHF DX book. I suggest tyou look carefully at that.

Dave Kirkby G8WRB
Dept of Medical Physics,
University College London,
11-20 Capper St,
London WC1E 6JA
Tel: 0171-209 6406
Fax: 0171-209 6269

4492. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: Jeff Cook <jcook@his.com>
Message-ID: <31F03CE1.48A6@his.com>
Source record: 103885
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

James S. Kaplan wrote:
> The following is a copy of a message I received today from
> ARRL General Counsel Christopher D. Imlay N3AKD:

There also may be some liability in publicly posting a private legal communication, I don't know. But I do know that spraying the net (8 newsgroups?) with your private gripe is kind of obnoxious and seems intended to intimidate your "opponent". If you wanted opinions from the group(s) about the original complaint, you should have discussed it with us legitimately. You may be a bit casual with your use of mass communication, and you may have also added to your difficulties by posting this way.

--
Jeff Cook
jcook@his.com

4493. WTD: Dick Smith 80 Meter Kit Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: sexton.r@ix.netcom.com
Message-ID: <N.071996.162915.89@ind-in6-61.ix.netcom.com>
Source record: 103886
Cross-posted to: aus.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap,uk.radio.amateur

I need an assembly/operating manual for the Dick Smith 80 Meter xcvr kit.
This was sold in the US during the late 80's/early 90's in kit form only. I
have 3 of them assembled from a ham fest but only one receives, none transmit.
Would appreciate help in locating a manual. I will be glad to pay for copies,
postage and a service fee for your trouble.

reply e-mail to sexton.r@ix.netcom.com
or snail mail to

Rick Sexton, KF9MT
5932 Elaine St.
Speedway, IN 46224

317-328-5629

thanks & 73

--
Rickie L. Sexton
Speedway Cleaning Shops, Inc.
Serving Central Indiana's Cleaning Needs
with 6 convenient locations!!!!!

4494. wanted schematic for pro-2023 scanner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: peterw@dyson.BRisnet.ORG.AU
Message-ID: <199607192217.IAA18120@dyson.brisnet.org.au>
Source record: 103887

Can anybody help me with a schematic for the Tandy (Radio Shack) scanner
model pro-2023?
Tnx. Peter VK4AWP.

4495. FS : Cablewave Hardline Connectors

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: paulc@esslink.com
Message-ID: <4sp3ve$5i9@news.esslink.com>
Source record: 103888

Hello All,

I have the following list of hardline connectors for sale
All connectors are used but in good condition.

(1) of HCC-78-50NM for 7/8" air

(2) of HCC-78-50NF for 7/8" air

(2) of FLC-78- 50NF for7/8" foam

(3) of FLC-12-50NM for 1/2" foam

All 7/8" connectors are $20.00 and the 1/2" are $10.00

PaulC@esslink.com

4496. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: Avatar <avatar@frii.com>
Message-ID: <31F052C4.740A@frii.com>
Source record: 103889
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

Eric Oyen wrote:
>
> rwc@io.com (RWC) wrote:
>
> > Well, I *was* looking into possibly starting a hobby out of HAM.
> >But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I see that
> >the attitudes and childishness isn't lmited to the people on "CB" Radios.
> >Perhaps HAM isn't for me after all, if Bill is any indication of the
> >types of people that are out there.
> Don't let the actions of a few bad apples sway your opinion of many
> fine people. We all have our faults (yes, that is part of being human)
> and some people display them with much higher intensity.
>
> > I was told that if a person needed a question answered or some
> >kind of help, that other HAM operators were happy to help out, and that
> >the operators of HAM radios were like a family. But what I've just seen
> >sounds like Channel 19 at a truck stop. No doubt I'll receive a bunch of
> >childish ranting and raving, cussing, etc in my mail box, so until
> >then... Ciao!

It is unfortunate that your initial exposure to Hams has been negative.
The fact is that you are dealing with people and some aren't so nice. I
was first licensed in 1952. It seems to me that Hams at that time were
more helpful, courteous and well mannered. Yes, there were isolated cases
of jerks on the air then. I have noticed, however, that the number of
jerks on the air have increased over the years. There is always the
option that you don't have to associate with them. There are plenty of
Hams with white hats left. Ham radio has several areas of interest other
than just communicating on the radio. My primary interest in the hobby
was and still is designing and building equipment. I do very little
operating. You need to sort out what area of the hobby interests you and
consider if it offers enough to put up with a few bad apples.

Regards,
W0MAY

4497. Has anyone modded a Rejunkcy RTE-202 to 900 mhz?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: Tiger X-term <t4>
Message-ID: <4sn3ic$gfc@news.sdd.hp.com>
Source record: 103890

Has anyone out there done the mod to make the Regency RTE-2020 go to 900 mhz ham bands? I've heard it can be done.

Can anyone help?

Thanks..Don.

4498. Radio Information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F0829F.224F@mailhost.oxford.net>
Source record: 103891

I was just wondering if anyone could tell me in Canada what is the maximum distance and signal stranght that an amatureradio station could broadcast with?

thanks

4499. Diagram Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F082E0.73FD@mailhost.oxford.net>
Source record: 103892

Does anyone have or know were to get plans to build good quality FM or AM transistors?

thanks

4500. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: Mark <kb9khm@expert.cc.purdue.edu>
Message-ID: <31EF9777.5E64@expert.cc.purdue.edu>
Source record: 103893
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Nick Kralevich wrote:

> I have the unique fortune of living about 1000 ft (0.2 miles, or 330
> meter) away from an internet service provider. I've been working with
> this provider for quite some time, and I want to setup a full time
> link to them. I am hoping that this will be a high speed link
> (1/2 T1 speed). Laying actual wire is out of the question, because it
> crosses heavily used roads.

This won't work on amateur frequencies, as the transmissions comming
from the internet would most likely contain material from non-amateurs
and could also be made up of content unsuitable for transmission on
the amateur bands.

Mark <KB9KHM>

4501. AM Modulation with SS Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: dougt@rsa.cirrus.COM
Message-ID: <199607191334.AA10521@rsa.rsa.cirrus.com>
Source record: 103894

I have done this using a filament power transformer run backwards. A 5.0 V secondary filament X-former with a 120 V pri, has a turns ratio of approx. 24 to 1. Now runing it backswards and feeding the output of a solid state amp @ 8 ohms gives an output impedance of 4.6 K (the square of the turns ratio times the pri impedance). A 6146 running at 750 v and 150 ma needs a 5K laod, pretty close. If the filament X-former is rated at 4A secondary, the pri current is 166 ma. Using a power x-former allows for load current to follow without saturating the core. The frequency response is not very good, the power x- former was designed to run at 60Hz, but I found that most x-former gave 2+ Khz top end, plenty good for AM, as a mater of fact the bandwidth need to be limited from the SS bandwidth of greater than 20 Khz.
Hope this helps. 73s

Douglas K. Thomson, KB4OQO
E-mail: d.k.thomson@ieee.org

4502. Low Frequency Scrapbooks

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: jsm@deepcove.com
Message-ID: <4so85r$l6s@marine.jumppoint.com>
Source record: 103895

I am trying to locate some of the earlier editions of:

THE LOW and MEDIUM FREQUENCY SCRAP BOOKS

These are published by KEN CORNELL (W2IMB). I am looking for editions #1 - 8. If you have one
and would like to sell it (or lend to me for photocopying), can you please e-mail me.
Many thanks,
Steve (VE7SL)

4503. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: teazes@gat.com
Message-ID: <4sosqb$n69@rosebud.sdsc.edu>
Source record: 103896
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <31EF9777.5E64@expert.cc.purdue.edu>, Mark <kb9khm@expert.cc.purdue.edu> says:
>
>Nick Kralevich wrote:
>
>> I have the unique fortune of living about 1000 ft (0.2 miles, or 330
>> meter) away from an internet service provider. I've been working with
>> this provider for quite some time, and I want to setup a full time
>> link to them. I am hoping that this will be a high speed link
>> (1/2 T1 speed). Laying actual wire is out of the question, because it
>> crosses heavily used roads.
>
>This won't work on amateur frequencies, as the transmissions comming
>from the internet would most likely contain material from non-amateurs
>and could also be made up of content unsuitable for transmission on
>the amateur bands.
>
>Mark <KB9KHM>

As long as one could reasonably ensure the transmissions were compliant,
there should not be a problem. For example e-mail forwarding should
be OK(3rd party traffic, right?), but reading alt.sex.xxx newsgroups
containing profanity or business spams probably shouldn't be OK.

The only REAL Part 15 argument that could work against your link, would
be that it would be BYPASSING a viable commercial means of communications;
the telephone. However, if you kept a web page that was up 24hrs/day,
you can argue that it is not reasonable to keep a telephone link
operational 24hrs/day, and so you would not be bypassing a commercial
system.

However, why worry about amateur compliance anyway?
The 900mhz band is now available for public data communications use,
and would probably work for Nick's application.

4504. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: Thor Wiegman <thorw@nidlink.com>
Message-ID: <01bb75ff.88cf0700$0b4960ce@thorw.nidlink.com>
Source record: 103897
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

```
: nickkral@america.CS.Berkeley.EDU (Nick Kralevich) wrote in article
<4smur8$8r4@agate.berkeley.edu>...
: I have the unique fortune of living about 1000 ft (0.2 miles, or 330
: meter) away from an internet service provider. I've been working with
: this provider for quite some time, and I want to setup a full time
: link to them. I am hoping that this will be a high speed link
: (1/2 T1 speed). Laying actual wire is out of the question, because it
: crosses heavily used roads.
:
: I read on rec.radio.amateur.digital.misc that a microwave transmitter
: and receiver combo would be the ideal solution to this problem.
: In addition to being low cost, it also gives the necessary range and
: high speed performance for what I need (this is what I read...).
:
: I'm guessing that I have to design my own setup for this type
: of thing. Actually, I would prefer to do my own construction of
: this microwave transmitter, since it would give me good experience
: dealing with microwave circuits (I'm a recent graduate of UC Berkeley
: with a bachleors degree in Electrical Engineering and Computer Science).
:
: I've been doing a lot of internet research, in addition to going
: to book stores and libraries to find a design for this type of thing.
: Unfortunately, I can't find any design online or in books.
:
: Does anyone know of a design for a digital microwave
transmitter/receiver
: combo that is available on the internet or in book form? Or
: perhaps I'm going about this in the wrong direction...
:
: Once I got the hardware in place, I could handle the IP routing
: myself. (I'm great with software, but not quite as good with hardware).
:
: Any suggestions would be appreciated.

As my boss always says "why re-invent the wheel?" Western Multiplex makes
a little SS unit for 2GHz called the Lynx. These are showing up on the
surplus market because for high reliablilty/quality most cell techs don't
like them (a matter of personal taste). I would think that picking up a
used pair of these would be cheaper and easier than building something
unless you're looking for the experience. These units don't require a
license for operation as they are covered under part 15. I've put up 40
mile hops with them (using 8 foot high performance dishes) so I would
think that a pair of homebrew yagi's would get the job done for you.
```

4505. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: nickkral@america.CS.Berkeley.EDU
Message-ID: <4sp4tr$bhu@agate.berkeley.edu>
Source record: 103898
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <4snmlr$1kn4@mule2.mindspring.com>,
Bob Merritt <bobm@mindspring.com> wrote:
>Go to the nearest ham radio store and buy a copy of the ARRL Handbook
>for Radio Amateurs and then read up on the 10Ghz Gunnplexor/2MBPS
>project....

Will do!

>You can also get a jumpstart by checking out the various links from my
>web pages on high speed packet....
>http://www.mindspring.com/~bobm

Will do! :)

>Oh the
>guys over in Utah have put together a T1 system, do a search to find
>more info on it...

Do you have a hint for what to search for?

>also you might want to check out "off the shelf"
>solutions with things like the WaveLan cards....

I was hoping to avoid "off the shelf" solutions due to their high cost.
Besides, it would be interesting to experiment with building equipment
like this.

>Realistically, using the new WA4DSY 56k RF modems may be what you
>need....

I'll look into that too.

Thanks for all the info!

Oh, one more question. Do you have any idea how much this type of
project would cost?

Take care,
-- Nick Kralevich
nickkral@cory.eecs.berkeley.edu

4506. Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: nickkral@america.CS.Berkeley.EDU
Message-ID: <4smur8$8r4@agate.berkeley.edu>
Source record: 104020
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

I have the unique fortune of living about 1000 ft (0.2 miles, or 330 meter) away from an internet service provider. I've been working with this provider for quite some time, and I want to setup a full time link to them. I am hoping that this will be a high speed link (1/2 T1 speed). Laying actual wire is out of the question, because it crosses heavily used roads.

I read on rec.radio.amateur.digital.misc that a microwave transmitter and receiver combo would be the ideal solution to this problem. In addition to being low cost, it also gives the necessary range and high speed performance for what I need (this is what I read...).

I'm guessing that I have to design my own setup for this type of thing. Actually, I would prefer to do my own construction of this microwave transmitter, since it would give me good experience dealing with microwave circuits (I'm a recent graduate of UC Berkeley with a bachleors degree in Electrical Engineering and Computer Science).

I've been doing a lot of internet research, in addition to going to book stores and libraries to find a design for this type of thing. Unfortunately, I can't find any design online or in books.

Does anyone know of a design for a digital microwave transmitter/receiver combo that is available on the internet or in book form? Or perhaps I'm going about this in the wrong direction...

Once I got the hardware in place, I could handle the IP routing myself. (I'm great with software, but not quite as good with hardware).

Any suggestions would be appreciated.

Take care,
-- Nick Kralevich
nickkral@cory.eecs.berkeley.edu

4507. Video Transmiter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31EF4F25.48@mailhost.oxford.net>
Source record: 104021

Does anyone know or have plans to build a Video transmiter???

thanks

4508. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: n7zzt@goodnet.com
Message-ID: <4snenl$ff2@news.goodnet.com>
Source record: 104022
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

rwc@io.com (RWC) wrote:

> Well, I *was* looking into possibly starting a hobby out of HAM.
>But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I see that
>the attitudes and childishness isn't lmited to the people on "CB" Radios.
>Perhaps HAM isn't for me after all, if Bill is any indication of the
>types of people that are out there.
Don't let the actions of a few bad apples sway your opinion of many
fine people. We all have our faults (yes, that is part of being human)
and some people display them with much higher intensity.

> I was told that if a person needed a question answered or some
>kind of help, that other HAM operators were happy to help out, and that
>the operators of HAM radios were like a family. But what I've just seen
>sounds like Channel 19 at a truck stop. No doubt I'll receive a bunch of
>childish ranting and raving, cussing, etc in my mail box, so until
>then... Ciao!
Don't worry from that standpoint (in so far as I am concerned). I am a
former 11 meter op who got out of that bad news almost 4 years ago. I
know the feeling when it comes to CB. Too many "bucket mouths" and not
enough common sense. The most unfortunate point of all this is that
the nitwits are generally the most vocal.

Eric <n7zzt@goodnet.com>

4509. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: bobm@mindspring.com
Message-ID: <4snmlr$1kn4@mule2.mindspring.com>
Source record: 104023
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

nickkral@america.CS.Berkeley.EDU (Nick Kralevich) wrote:

>Does anyone know of a design for a digital microwave transmitter/receiver
>combo that is available on the internet or in book form? Or
>perhaps I'm going about this in the wrong direction...

Go to the nearest ham radio store and buy a copy of the ARRL Handbook
for Radio Amateurs and then read up on the 10Ghz Gunnplexor/2MBPS
project....

You can also get a jumpstart by checking out the various links from my
web pages on high speed packet....
http://www.mindspring.com/~bobm

several people, especially Barry VE3JF, have put together alot of
info on the subject... Glenn N6GN has built 230kbps digital
radios... check out the link to his info too.... lets see... Oh the
guys over in Utah have put together a T1 system, do a search to find
more info on it... also you might want to check out "off the shelf"
solutions with things like the WaveLan cards....

Realistically, using the new WA4DSY 56k RF modems may be what you
need....

73/Bob

Bob Merritt KA4BYP
http://www.mindspring.com/~bobm

4510. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: jangus@netcom.com
Message-ID: <jangusDusKA3.Iow@netcom.com>
Source record: 104024
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

"James S. Kaplan" <kg7fu@combined.com> writes:

>ARRL lawyer to sue member

>The following is a copy of a message I received today from
>ARRL General Counsel Christopher D. Imlay N3AKD:

It never fails to amaze me how the granting of an operating license
by the FCC is taken by some of our fellow hams.

Remember "Hatlo's, They'll Do It Every Time?"

Towit, the granting of a license absolves the grantee from any personal
responsibility for their actions.

Apparently a keyboard and access to usenet news works the same way these
days.

Jeff
Who shouldn't be amazed by anything these days....

--
Amateur: WA6FWI@WA6FWI.#SOCA.CA.USA.NA | "It is difficult to imagine our
Internet: jangus@skyld.grendel.com | universe run by a single omni-
US Mail: PO Box 4425 Carson, CA 90749 | potent god. I see it more as a
Phone: 1 (310) 887-8545 | badly run corporation."

4511. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: "Anthony R. Gold" <tgold@tgold.dialup.access.net>
Message-ID: <837782745snz@tgold.dialup.access.net>
Source record: 104025
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <4rgtmc$hop@nntp-1.io.com> rwc@io.com (RWC) wrote:

> Well, I *was* looking into possibly starting a hobby out of HAM.
>But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I see that
>the attitudes and childishness isn't lmited to the people on "CB" Radios.
>Perhaps HAM isn't for me after all, if Bill is any indication of the
>types of people that are out there.

If two whimsical comments by two individuals is sufficient to change
your mind about amateur radio as a hobby, I agree that you will
probably not be well suited to it. Perhaps take up something like
stamp collecting, where you won't need to learn how to interact with
other human beings, even [horror!] those who don't agree with you.

Regards,
--
Tony - G3SKR / AA2PM email: tgold@panix.com
tgold@microvst.demon.co.uk
packet: g3skr@n0ary.#nocal.ca.usa.na

4512. Re: FAR Circuits Address

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: Jon Bloom <jbloom@arrl.org>
Message-ID: <31EFB0F7.244D@arrl.org>
Source record: 104026

Booth, Thomas G wrote:
>
> FAR Circuits
> 18N640 Field Court
> Dundee, Ill. 60118
>
> TGB

FAR Circuits now has a Web page, too:

http://www.cl.ais.net/farcir/

--
Jon Bloom, KE3Z | jbloom@arrl.org
American Radio Relay League |
225 Main St., Newington CT 06111 |

4513. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: stevem@best.com
Message-ID: <4sod5g$e2i@shellx.best.com>
Source record: 104027
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <4smur8$8r4@agate.berkeley.edu>,
Nick Kralevich <nickkral@america.CS.Berkeley.EDU> wrote:
>I have the unique fortune of living about 1000 ft (0.2 miles, or 330
>meter) away from an internet service provider. I've been working with
>this provider for quite some time, and I want to setup a full time
>link to them. I am hoping that this will be a high speed link
>(1/2 T1 speed). Laying actual wire is out of the question, because it
>crosses heavily used roads.
>
>I read on rec.radio.amateur.digital.misc that a microwave transmitter
>and receiver combo would be the ideal solution to this problem.
>In addition to being low cost, it also gives the necessary range and
>high speed performance for what I need (this is what I read...).
>
>I'm guessing that I have to design my own setup for this type
>of thing. Actually, I would prefer to do my own construction of
>this microwave transmitter, since it would give me good experience
>dealing with microwave circuits (I'm a recent graduate of UC Berkeley
>with a bachleors degree in Electrical Engineering and Computer Science).
>
>I've been doing a lot of internet research, in addition to going
>to book stores and libraries to find a design for this type of thing.
>Unfortunately, I can't find any design online or in books.
>
>Does anyone know of a design for a digital microwave transmitter/receiver
>combo that is available on the internet or in book form? Or
>perhaps I'm going about this in the wrong direction...
>
>Once I got the hardware in place, I could handle the IP routing
>myself. (I'm great with software, but not quite as good with hardware).
>
>Any suggestions would be appreciated.
>
>Take care,
>-- Nick Kralevich
> nickkral@cory.eecs.berkeley.edu

You would probably be better off buying one of the license free FCC part
15 data radio systems on the market. These operate in the 900 and 2.4GHz
bands. For the short range you are talking about, you would probably not
have any interference issues to worry about. This would free you of the
difficult task of building your own RF hardware, which is not trivial,
and the problems of dealing with the limmitations of data format and

content operating the system under Amateur Part 97 rules (assuming you were interested in operating legally).

Good Luck

Steve Muther WF6R

4514. Important!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: ke6zlj@svpal.svpal.org
Message-ID: <4sostf$a3n@borg.svpal.org>
Source record: 104028

For ALL amateur operators: Visit my web page,
http://www.geocities.com/SiliconValley/8582/ihr, and find several links
to documents that will keep you up to date on the WRC-97 proposal, and
you'll also find a number of documents about Kenwood's 'Bold Step'. For
those of you who have already read about this stuff, be sure to visit
anyway to learn about anything new that has come up.
You can also visiit my web page (in signature) and see what else I have.
While you're visiting, please sign my guestbook so I may see who has
visited my page and from where.
Thank you.

--

| Eric |
| 73 de ke6zlj |
| Email #1: edm@netbox.com |
| Email #2: ke6zlj@svpal.org |
| Repeater: (Varian/HP) 147.315+ PL:151.4 |
| WWW: http://www.geocities.com/SiliconValley/8582/ |

4515. Source of Ferrite Beads?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: fiz <fiz@lamar.colostate.edu>
Message-ID: <31F006C4.7BA0@lamar.colostate.edu>
Source record: 104029

Hi,

Can anyone recommend a place to get ferrite beads big enough to slip over
RG-58? They don't need to slip over the BNC connector, only the cable,
0.2" OD.

ttfn fiz (KG0YG)

4516. Antenna for 2 Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-19 00:00:00 UTC
From: k1epj@gnn.com
Message-ID: <4soucp$2o5@news-e2b.gnn.com>
Source record: 104030

I'm waiting for the UPS truck to arrive with my DR-1200 and
KPC-3 and trying to decide what I should put up for an antenna.
The closest BBS is 5 miles away and the closest DX packet cluster
is about 20 miles away.
I have quite a bit of experience with building HF antennas but zero
experience with VHF. Anyone have any suggestions?
Thanks
Dave LeDuc K1EPJ

4517. Re: Ham-Homebrew

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4spoqb$ic8@opera.iinet.net.au>
Source record: 103899

dougt@rsa.cirrus.COM (Doug Thomson) wrote:

> Do you have a website, and if so, what is the address.
> Tns.
> Douglas Thomson, dougt@rsa.cirrus.com
>
Check the Perth Radio Experimenters group
http://www.iinet.net.au/~richardh

New articles due soon when I get this DDS system going!

Richard Hosking

VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

4518. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: Mark <mark@tetherless.net>
Message-ID: <4sq1c9$839@gorgor.pa.tetherless.com>
Source record: 103900
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

teazes@gat.com (Stewart Teaze) wrote:

>As long as one could reasonably ensure the transmissions were compliant,
>there should not be a problem. For example e-mail forwarding should
>be OK(3rd party traffic, right?), but reading alt.sex.xxx newsgroups
>containing profanity or business spams probably shouldn't be OK.
>
>The only REAL Part 15 argument that could work against your link, would
>be that it would be BYPASSING a viable commercial means of communications;
>the telephone. However, if you kept a web page that was up 24hrs/day,
>you can argue that it is not reasonable to keep a telephone link
>operational 24hrs/day, and so you would not be bypassing a commercial
>system.
>However, why worry about amateur compliance anyway?
>The 900mhz band is now available for public data communications use,
>and would probably work for Nick's application.

If you are operating under Part 15, you neither have to worry about bypassing
the telepone circuits or content. There is no FCC/PUC ruling regarding this,
if there were, a lot of wireless service providers (in licensed and
unlicensed spectrum) would be out of business.

Mark

4519. Qualcomm Q2334 DDS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: richardh@iinet.net.au
Message-ID: <4sppmm$ic8@opera.iinet.net.au>
Source record: 103901
Cross-posted to: sci.electronics.design,rec.radio.amateur.homebrew,comp.dsp

Gday all

I have built a board using the Qualcomm Q2334 dual DDS but am having difficulty with the software - so much so that I wonder if I have damaged the chip in some way. Does anyone have pointers to software to drive the chip - are there any special problems?

Thanks

Richard Hosking
VK6BRO
richardh@iinet.net.au
http://www.iinet.net.au/~richardh

4520. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: bobm@mindspring.com
Message-ID: <4sqnp2$1dho@mule2.mindspring.com>
Source record: 103902
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

nickkral@america.CS.Berkeley.EDU (Nick Kralevich) wrote:

>>Oh the
>>guys over in Utah have put together a T1 system, do a search to find
>>more info on it...

>Do you have a hint for what to search for?

hmmm... good question, I haven't looked as yet myself. I do know
that they've designed their own T1 modem for some surplus microwave
radio they had....

>I was hoping to avoid "off the shelf" solutions due to their high cost.
>Besides, it would be interesting to experiment with building equipment
>like this.

Wavelans cards are not that expensive and may do just the trick for
you. TAPR just placed a group order for the cards with somebody and
they had the price down to ~$200 per card...

>Oh, one more question. Do you have any idea how much this type of
>project would cost?
welll a PC on each end (if you dont have them already) ~$2000 or
less... 2 wavelan cards for $400 A good pair of yagi's for 900
Mhz... $300 unless you make them yourself! and good quality
hardline and some bnc adapters....?

So figure ~$3000 total... $1500 per node is about right

Bob

Bob Merritt KA4BYP
http://www.mindspring.com/~bobm

4521. Need Programming info

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: paul378983@aol.com
Message-ID: <4sr08i$4fo@newsbf02.news.aol.com>
Source record: 103903

Have 2 commercial use radios, 1 UHF and 1 VHF. No manuals.
Manufacturer (TAD RADIO) cant be found.
Anyone having contact info for TAD, or programming info for their mobile rigs,
M8 UHF and M8 VHF would be greatly appreciated.
Are these units field programmable, or is an external device required??

Also have a GE MVS mobile UHF. Havent contacted GE yet, but anyone with info on this unit kindly respond...
Thanks in advance.
Paul378983@aol.com

4522. Re: Antenna for 2 Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: JohnEly@ia.net
Message-ID: <4srcfl$6fi@hera.ia.net>
Source record: 103904

k1epj@gnn.com (DAVID R LEDUC) wrote:

> I'm waiting for the UPS truck to arrive with my DR-1200 and
> KPC-3 and trying to decide what I should put up for an antenna.
> The closest BBS is 5 miles away and the closest DX packet cluster
> is about 20 miles away.
> I have quite a bit of experience with building HF antennas but zero
> experience with VHF. Anyone have any suggestions?
> Thanks
> Dave LeDuc K1EPJ

Dave,

I suggest you use vertical polarization. A J-pole, for example,
should work fine work fine.

John Ely, W0GN

4523. Re: Antenna for 2 Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: vigilant <vigilant@cetlink.net>
Message-ID: <01bb7687.4b21f600$d3681fce@mjs-enterprises>
Source record: 103905

take an so-239 and make a 2m groundplane antenna......get it up as high as
you can and feed it with the lowes loss coax you have.....you should able
to hit paket stations......

> > I have quite a bit of experience with building HF antennas but zero
> > experience with VHF. Anyone have any suggestions?
> > Thanks
> > Dave LeDuc K1EPJ

4524. schematics

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <31F18552.1527@flinet.com>
Source record: 103906

please send any schematics you have to duane@flinet.com I want to add a section to my home page for schematics only. Boy it's tough to find schematics on the net. so i want to give them a home, osc schematics,timers,amps,mixers,flashers,555,741,radio mods,what ever you wish to send. please let me know what format you send them in so i can convert to pdf (acrobat reader) or let others know what format there in.

4525. Re: Diagram Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F1BE8C.6B83@mailhost.oxford.net>
Source record: 103907

Tom Sefranek wrote:
>
> A Guy named Moe <skubik@mailhost.oxford.net> wrote:
>
> >Does anyone have or know were to get plans to build good quality FM or
> >AM transistors?
>
> >thanks
>
> What does this mean???
>
> You want to become a silicon foundry to build transistors?
>
> Perhaps you wish to build radios?
>
> How about specifying frequencies?
>
> What does this all mean?
sorry but I mean Transmiters as in to build a small radio station

4526. Need IC-50 schematic !

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.7.20.23.52.38.2443217854.3114978@hcol.humberc.on.ca>
Source record: 103908

Hit there...I am in need of a schematic diagram for an ICOM IC-505
6 meter transceiver.
I would be happy to reimburse copying and postage costs is required
or return the favour in some other way.

Please e-mail: hduff@hcol.humberc.on.ca

Many thanks !

Hugh Duff VA3TO Toronto

 NFX v1.3 [000]

4527. CB to 10 Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: Harold Clemons <harold@hal-pc.org>
Message-ID: <31F18478.61CE@hal-pc.org>
Source record: 103909

I have a Radio Shack 21-1565 SSB 40 ch that i would like to
convert to 10 Meter. This is a PLL radio.

Harold

4528. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: Dave Heil <k8mn@clinet.fi>
Message-ID: <31F153DB.261C@clinet.fi>
Source record: 103910
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

James S. Kaplan wrote:
>
> ARRL lawyer to sue member.....

>
>
> ...And here is my reply:
>
> Dear Mr. Imlay:
>
> Thank you for reading my column in the SBE Chapter 124 Newsletter
> "Water Cooled".
>
> I will not be giving you a retraction for any of my statements
> published in the July 1996 issue as you have requested. My statements
> are my personal opinions and views.....
> Sincerely,
>
> James S. Kaplan KG7FU
> Member SBE
> Member ARRL
> kg7fu@combined.com
> http://users.aol.com/kg7fu/home.htm
> KG7FU@N7DXT.#EUGEN.OR.USA.NOAM

Jim,

Whatever your beef with Chris, I don't think your posting or choice to air your differences with Chris in this particular forum reflects badly on your judgement. It is your reputation which would appear to be tarnished by handling the affair in this manner.

Dave OH2/K8MN

4529. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: "Anthony R. Gold" <tgold@tgold.dialup.access.net>
Message-ID: <837892570snz@tgold.dialup.access.net>
Source record: 103911
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <01bb739f.8e9f00c0$7f8260ce@surf.rio.com>
kg7fu@combined.com "James S. Kaplan" writes:

> I will not be giving you a retraction for any of my statements
> published in the July 1996 issue as you have requested. My statements
> are my personal opinions and views.

Jim, you wrote and published that Chris Imlay was providing less than
fully effective legal service to two of his clients on account of
conflict of interest. And you have repeated that allegation to the
Usenet world at large.

I believe that a defense of personal opinion is not available to you
in this matter. I believe that you will need sufficient proof for
your repeated allegations of professional malpractice to have Chris
at least sanctioned if not disbarred, or your defense will fail.

> I know you'll also agree that, if you choose to pursue litigation, the
> proper forum for legal action would be an Oregon court as the column was
> written and published here.

I wonder how you know that Chris will agree with that? The same way
you know that he is providing ineffective legal services? Oh dear :-(

Regards,
--
Tony - G3SKR / AA2PM email: tgold@panix.com
tgold@microvst.demon.co.uk
packet: g3skr@n0ary.#nocal.ca.usa.na

4530. cb to 10 meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: Leslie Guinn <lesguinn@startext.net>
Message-ID: <31F15514.7A9A@startext.net>
Source record: 103912

how do you convert a cb to 10 meter. I have an old realistic 23-plus cb
i would like to convert

Thanks

Leslie....

4531. 20m qrp cw xcvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: b.jennings@bgbbs.com
Message-ID: <8C4D3ED.153100128B.uuout@bgbbs.com>
Source record: 103913

Salutations! I am looking for a schematic for a simple 20m cw xcvr
,preferably w/ a dc receiver that can be built on a small budget.
if u can help post a message here on send to me at b.jennings@bgbbs.com
or bfyr32a@prodigy.com
73 es tnx de kc5nqe

4532. Far circuits address

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-20 00:00:00 UTC
From: b.jennings@bgbbs.com
Message-ID: <8C4D3E8.153100128A.uuout@bgbbs.com>
Source record: 103914

```
The address to FAR circuits is as follows:
18n640 field ct
dundee, il 60118-9269
Voice and fax 708-836-9148
visa and mc, add $3 service charge

73 de kc5nqe
b.jennings@bgbbs.com
```

4533. *NEED HELP TO REBIAS LO VHF MICOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: K4PI@WORLDNET.ATT.NET
Message-ID: <4sreqq$11f@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 103915

I WANT TO REBIAS A LOW VHF MOTOROLA MICOR , 50MHZ, FROM C TO AB1.
ANYONE DONE THAT? PLAN TO BYPASS PREAMP SECTION AND DRIVE FINALS
DIRECTLY AS HAVE 10 WATT DRIVE ALREADY. 73 MIKE

4534. Re: Diagram Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: tcs@cmcorp.com
Message-ID: <31f18cab.0@news.cmcorp.com>
Source record: 103916

A Guy named Moe <skubik@mailhost.oxford.net> wrote:

>Does anyone have or know were to get plans to build good quality FM or
>AM transistors?

>thanks

What does this mean???

You want to become a silicon foundry to build transistors?

Perhaps you wish to build radios?

How about specifying frequencies?

What does this all mean?

4535. FS: Radio/Electronic Items

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: bk296@FreeNet.Carleton.CA
Message-ID: <4stgmi$7rf@freenet-news.carleton.ca>
Source record: 103917

*** Radio/Electronic/Miscellaneous Material For Sale ***

Over 800 different items of very good "stuff" (no junque) for sale, ranging from 1914 radio test equipment to 1992 microprocessor development hardware. Includes an extensive array of early General Radio parts and instruments. The emphasis is on stuff for the home builder/experimenter and early battery set parts (some very early). There is a lot of hard-to-find material, something for everyone (some surprises, too!).

Prices are low for quick sale. The order procedure is "no hassle" as in my previous tube sale, with the same 100% guarantee.

US orders shipped UPS from Ogdensburg, NY to minimize delays and cost.

Email bk296@carleton.freenet.ca for list (90k bytes) or send $1 for printed or diskette copy (refunded with order) to:

Gordon Symonds
26 Ossington Avenue
Ottawa, Ontario Canada
K1S 3B4
(613) 730-2198 (evenings after 7:00 PM or weekends only)

4536. Wanted: Schematic for Heath GR-81 Regen SW recvr

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: peabody@pacbell.net
Message-ID: <4stsva$581@news.snfc21.pacbell.net>
Source record: 103918

I picked up this Heathkit shortwave regenerative receiver GR-81 and I'd like to restore it to working condition. It has a few parts that look like they were added on after it was built. It is also missing two tubes and there is no marking on the chassis to indicate their identity.

Be glad to pay for copying and shipping if any one has documentation on this device, or if there is an archive site of Heathkit schematics, I'd appreciate that Info as well.

Thanx...Gus

4537. Re: Help: Building a repeater system

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <31f2917b.144634259@nntp.ix.netcom.com>
Source record: 103919

On 14 Jul 1996 13:58:28 -0400, kc8dml@aol.com (KC8DML) wrote:

>I was told by someone that you could somehow link two base station or
>mobile radios like the Motorola Mocom 70 and it could operate like a
>repeater. I am an amatuer radio operator and I am trying to put together a
>radio system for my dad's business on high band (148-174). I am also
>looking for any new or used VHF radio equipment, (handhelds, mobiles, base
>stations, pagers(ex. Minitor II), test equipment, and possible ideas on
>what kind of antenna system I should use (1/4 wave vertical with ground
>radials, ground plane, or just a simple dipole???). Would I need two
>seperate antennas???
>
>
>THX de KC8DML
>Rob
>Chardon, Ohio
>147.21+ 444.65+
>147.015+ 444.375+
>146.76- 146.94-
>In the Cleveland Area

There was an excellent article on this in 73 magazine within the last
month or two. If you are stuck on Motorola, use a Micor mobile. It's
by far the easiest to come by and convert.

You will also need a duplexer to keep your transmitter out of your
rcvr.

You can get as fancy as you want with the antenna, but keep it
vertical, as the natennas on the vehicles are vertical.

This is indeed a feasable project, and you will learn a ton!

Kevin N0OAS/AAR8GF

4538. Re: Source of Ferrite Beads?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: Jim <KC4FWS@worldnet.att.net>
Message-ID: <31F206E7.2BF5@worldnet.att.net>
Source record: 103920

fiz wrote:
>
> Hi,
>
> Can anyone recommend a place to get ferrite beads big enough to slip over
> RG-58? They don't need to slip over the BNC connector, only the cable,
> 0.2" OD.
>
> ttfn fiz (KG0YG)Contact AMIDON at (714)850-4660 and ask for their catalog. They carry a large selection of ferrite beads of various sizes and types. Also, try your next local hamfest. CQ and QST have many advertizers that offer what you are looking for or can provide a source that may be close to you. Good luck...

DE KC4FWS

Jim

KC4FWS@worldnet.att.net

4539. Hambrew Start

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: Dwayne Rich <drichff@interpath.com>
Message-ID: <31F241C3.7CFC@interpath.com>
Source record: 103921

Can anyone lend their advice as to a good kit or plans/supplies to homebrew for someone who would like to try and build something for the first time? It would need to be assembled tested with as little test equipment as possible. I would like to build some to use on the HF bands.
--
Dwayne "drichff@interpath.com"

Firefighter-3 / N.C. EMT / Basic Rescue Technician
Fire Patch Trader / Carolinas Fire Page (Disp.701)
Appalachian Trail Hiker (Trailname "BACKDRAFT")
Ham Operator KC4ADW " Strive for Perfection, Settle for Excellence"

4540. Compact UHF Repeaters for sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <31f26ddd.135514802@nntp.ix.netcom.com>
Source record: 103922
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.swap

I have a limited number of EF Johnson Fleetcom II UHF rigs for sale.

These are easily converted to repeaters. I can provide the unit 2 ways.

As-Is - $50.00 + $10.00 s&h You do all of the conversion, alignment, recrystaling, etc. I will provide instructions for the conversion & a copy of service manual.

Ready-To-Go Repeater $300.00 Fleetcom II converted to repeater use, crystaled to your freqs, tuned and aligned, simple carrier operated relay. You still need to provide a duplexer, antenna, & ID'er w/manual

These units are all pulled from service and tested & aligned on 468mhz.

I also have a limited number of service manuals for older commercial equipment. E-Mial your needs and I'll see what I can do.

Other Services available: (All prices + s&h)

Reprogramming of commercial equipment to Amatuer freqs - $35.00
Equipment Repair - $60.00/hr (1/2 hr min, estimate if repair will take more than 2 hr.)
Custom Cables
'Most anything else your rig might need.

E-mail your needs to:
kproctor@ix.netcom.com

Kevin B. Proctor N0OAS/AAR8GF

4541. Re: cell phone conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <31f29004.144259060@nntp.ix.netcom.com>
Source record: 103923

On Sat, 13 Jul 1996 16:39:16 -0500, Danny Williams
<williams@flash.net> wrote:

>Has anyone considered on done a conversion of an old cellular phone to a
>900 mhz. ham tranceiver? Any thoughts or comments appreciated.
>Danny
>KB5WER

Hving worked on cell equipment for several years, I wouldn't try it.
Anything is possible, but considering that you would have to
reprogram, as well as retune the phone, at the lowest levels, It would
be more trouble than it is worth.

I would suggest looking for older comercial 900 Mhz equipment. Even
the newer stuff can easily be converted from trunking operation to
conventional, and some of it is starting to appear on the surplus
market.

Kevin N0OAS/AAR8GF

4542. Small Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F2CF08.79DA@mailhost.oxford.net>
Source record: 103924

I would like to setup a small radio station but I need plans and
diagrams to build a fm transmiter

thanks

4543. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: Harold Clemons <harold@hal-pc.org>
Message-ID: <31F2F5A8.856@hal-pc.org>
Source record: 103925
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Nick Kralevich wrote:
>
> I have the unique fortune of living about 1000 ft (0.2 miles, or 330
> meter) away from an internet service provider. I've been working with
> this provider for quite some time, and I want to setup a full time
> link to them. I am hoping that this will be a high speed link
> (1/2 T1 speed). Laying actual wire is out of the question, because it
> crosses heavily used roads.

> -- Nick Kralevich
> nickkral@cory.eecs.berkeley.edu

Nick

Check into persoft equipment at http://www.petsoft.com
they use Radio (microwave I think) for line of sight LAN
connections of up to 5 Miles.

Good Luck
Harold

4544. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: Steve Wolf <no8m@apk.net>
Message-ID: <31F2CFF4.62BA@apk.net>
Source record: 103926
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

> Jim, you wrote and published that Chris Imlay was providing less than
> fully effective legal service to two of his clients on account of
> conflict of interest. And you have repeated that allegation to the
> Usenet world at large.
>
> I believe that a defense of personal opinion is not available to you
> in this matter. I believe that you will need sufficient proof for
> your repeated allegations of professional malpractice to have Chris
> at least sanctioned if not disbarred, or your defense will fail.

Wait a second ...

If a fellow is working for two sides of an issue at the same time there has to be no proof of conflict. You can not prosecute and defend. There needs to be no proof.

I can't hire an FCC lawyer to represent me should I be accused of a Part 97 rule violation. The FCC would see that, without proof, as a conflict of interest.

Now, is the ARRL seeing their lawyer as being in a conflict of interest? We've not heard from them. Maybe we should wait for their thoughts. I hope they comment as I don't want to make my judgement based on what has been presented here (and with the implications a lack of comment would have).

Expressing an opinion that someone in a membership organization is out of line is part of the democracy of the organization ... right? The legal threats which resulted were sad. I would have defended myself in a reply. Let's hope he was just too upset to see an alternative course. If not, he's doing a pretty poopy job (I'm a member! I'm a member!).

--
73,
Steve
Internet: no8m@apk.net
Amateur Radio: no8m@no8m.#neoh.oh.usa.na
MSYS Mail List: msys-request@hamnet.org ('info' for title)

4545. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: rogerjb@earthlink.net
Message-ID: <4sth7o$t46@bolivia.it.earthlink.net>
Source record: 103927
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In <31F03CE1.48A6@his.com>, Jeff Cook <jcook@his.com> writes:
>There also may be some liability in publicly posting a private legal communication, I
>don't know. But I do know that spraying the net (8 newsgroups?) with your private gripe
>is kind of obnoxious and seems intended to intimidate your "opponent". If you wanted
>opinions from the group(s) about the original complaint, you should have discussed it
>with us legitimately. You may be a bit casual with your use of mass communication, and
>you may have also added to your difficulties by posting this way.
>
>--
>Jeff Cook

I am only a gonnabe lawyer, so I'm not going to express any legal opinions
regarding this dispute. However, I am going to say that I don't care much
for a scenario where a lawyer threatens litigation against someone who airs
an opinion that the lawyer is acting improperly. The First Amendment was
written precisely to permit ordinary citizens to criticize powerful members of
society without fearing legal retribution. When an attorney seeks to exploit
his stronger position vis'a'vis his ability to litigate, in order to suppress
free speech, this is not good.

In fact, I suspect (this is not a legal opinion, just a guess) that a court would
make short work of any libel case connected with this matter.

As far as the use of the internet goes, I kind of think that the internet
strengthens free speech, by giving those without ordinary media access
a public forum in which to express opinions. Nothing wrong with that, in
my opinion.

Roger J. Buffington
W6VZV
USC Law School Class of '97

rogerjb@earthlink.net

"I want to die peacefully, in my sleep, like my grandfather.
Not screaming, and in terror, like his passengers."

4546. pryamid ps-35g schematic

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: ties <ties@cybertown.net>
Message-ID: <31F267B8.4C2C@cybertown.net>
Source record: 103928

anyone have a schematic of a pyramid ps-35g they could e-mail to me. or if anyone knows of page on the net with amateur radio schematics for download. any assitance would be much appreciated. don.

4547. Re: Hambrew Start

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: Mike Neverdosky <mneverdosky@cycat.com>
Message-ID: <31F27C3B.173@cycat.com>
Source record: 103929

Look at http:///www.fix.net/nowcal.html
This is the home page of the NorCal QRP club. Look at the links for the 40-9er.
Nice little kit esp for $25. I just got my kit and haven't built it yet.

Also look for the QRP-L mailing list. I don't have the address handy, but
I think there is a link to the archives on norcal's page.

mike

Dwayne Rich wrote:
>
> Can anyone lend their advice as to a good kit or plans/supplies to
> homebrew for someone who would like to try and build something for the
> first time? It would need to be assembled tested with as little test
> equipment as possible. I would like to build some to use on the HF
> bands.
> --
> Dwayne "drichff@interpath.com"

4548. TV station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F2CF4B.79E@mailhost.oxford.net>
Source record: 103930

I was thinking of seting up a TV station using a video camera microphone and VCR. anyone know where to get plans to build a transmiter and information on a antanna?

4549. Re: AM Modulation with SS Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <31f2623b.13982954@eskinews.eskimo.com>
Source record: 103931

Michael.Black@juxta.mba.org (Michael Black) wrote:

>dougt@rsa.cirrus.COM (Doug Thomson) had some comments about
>using a filament transformer backwards to modulate a 6146,
>adding that "The frequency response is not very good".
>
>Back when AM was popular, you'd see tricks in the ham magazines
>on using power transformers as modulation transformers. At
>least once, I saw the suggestion of using 400 cycle surplus
>(from airplane military surplus) transformers for modulation
>transformers, because their higher operating frequency was
>better suited to modulation purposes. Besides, the 400 cycle
>frequency made them less bulky, and there wasn't a lot of practical
>use for the 400 cycle transformers, though they were cheap.
>
>There probably are still alot of these old transformers lying
>around as doorstops and whatever that would still work well
>in this idea.

Keep in mind that if your voice is somewhat low-pitched, a 400 Hz transformer may not present enough impedance to the output amplifier and will result in excessive current drain. Check it out with an audio oscillator at different frequencies and then design the bandpass of your audio amplifier to reject anything too low.

73, Bill W7LZP
wrt@eskimo.com

4550. Scanners & Short wave equipment

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F2CFB9.2957@mailhost.oxford.net>
Source record: 103932

I was wondering if anyone knows were to get plans to build short wave equipment and scanners and the antannas

thanks

4551. helical resonators

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: farside@io-online.com
Message-ID: <31f2b190.0@news.io-online.com>
Source record: 103933

I am looking for some plans on how to build a 2-meter helical resonator (band pass).

John
KE6ZUZ

4552. Heath GR-78

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: Bob Liesenfeld <wb0poq@visi.com>
Message-ID: <31F25AD9.26D8@visi.com>
Source record: 103934

Hi,
I'm looking for a schematic/manual for a Heathkit GR-78 receiver. I'll pay costs etc.
Thank you!

Bob L. wb0poq@visi.com

4553. CB to 10 meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: Leslie Guinn <lesguinn@startext.net>
Message-ID: <31F2A102.76CD@startext.net>
Source record: 103935

I have a old Realistic Americana 23-plus cb that I would like to convert to 10 meter. Could you tell me how to do it. Or tell me where I could get the information on how to do.

Thanks

Leslie.....

4554. TV-Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-21 00:00:00 UTC
From: kaf3@axe.humboldt.edu
Message-ID: <31f282f5.826665392@199.4.94.14>
Source record: 103936

I heard it was possible to make a ham radio out of a Tv. Anyone here know how?

Thanks
kaf3@axe.humboldt.edu

4555. How to reduce radio interference???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: LMNC01A@prodigy.com
Message-ID: <4suuea$12ie@usenetp1.news.prodigy.com>
Source record: 103937

I just took an old Zenith 158 computer with an 8-bit passive backplane design and installed the interface cards from an old 8-bit expansion box. I used it to add slots to a system that had few available slots.

It works great except that I get radio interference which I believe is coming from the two huge unshielded cables that carry the 8-bit bus between the two computers.

I remember that Zenith's 8-bit H89/90 systems always had heavily shielded cables for their external disk drives. These cables were grounded to the case. I have many of these cables left, but none are wide enough.

I am looking for some suggestions on how to reduce the radio interference. I thought of, but have yet to try, wrapping the cables in foil and grounding the foil. I am hoping to find a better solution.

Tony Venticinque

4556. Looking for some IC's - HELP !!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Charlie Rubenstein <rubenc@iglou.com>
Message-ID: <31F2EE40.4AAC@iglou.com>
Source record: 103938

Im trying to find a source for the following IC's to upgrade
my phone patch (an ACC Patchmaster 200). They are Static Ram IC's
for the voice mail function, and the other is a Tone Encoder/Decoder.

The Static Ram chips are listed in the Schematic as "8-512KX8"

and the CTCSS chips are listed as "MX355P"

Anyone have a source for these chips?

Thanks

CHarlie KB8BWE

4557. Re: Want to build stereo amp- where to start?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: pantek@ix.netcom.com
Message-ID: <4sv6bc$39o@dfw-ixnews2.ix.netcom.com>
Source record: 103939

In <4sh162$rtb@agate.berkeley.edu> bigdick@uclink3.berkeley.edu
(Bigdick McGee) writes:
>
>
>I would like to build my own 80-150 watt per channel amplifier fro my

>home audio system. I just don't know where to start. Can anyone

>recommend a good reference for starting such a project? Something
that
>will really lead me along with a project that I can improve myself.
>
>Thanks, Jed <jed@csua.berkeley.edu>
>
>
>--
>**
****
>Hey Der, Polka Boy, Go Home and Suck a Beer * Go
Bears!
>Hey Der, Bratwurst Head, Go Drive Your Old John Deere * (both of
'em)
>Yah Hey, Keep Your Women Away, The Smell Will Make Us Cry *

anybody who designs and builds their own audio amps either has:

too much spare time (me)
- or -

a big ego to think that they can do it better (me)
- or -

not a lot of sense (me)

rich wb0ikn

4558. Re: B&W Coil Stock Supplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: pantek@ix.netcom.com
Message-ID: <4sv60t$6c9@sjx-ixn6.ix.netcom.com>
Source record: 103940
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In <4se5tb$add@itnews.sc.intel.com> Cecil Moore
<cmoore@sedona.intel.com> writes:
>
>Paul Knight <pknight@elec.ctl.etn.com> wrote:
>>Hi! I need to procure some B&W airwound coil stock for a project,
>>and was hoping that someone could recommend a supplier for such.
>
>Surplus Sales of Nebraska advertises such in QST. (402)346-4750
>
>73, Cecil, W6RCA, OOTC (not speaking for my employer)
>
>
buying from surplus sales is a sure sign that you have way too much
money.

rich wb0ikn

4559. Impedance of un-symmetrical tri-plate

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: davek@medphys.ucl.ac.uk
Message-ID: <1996Jul22.094807.89397@ucl.ac.uk>
Source record: 103941

I'm designing a tube amplifier, with a strip-line above a groud plane. Unfortunately the tube sets a minimum distance above the line of 90 mm, so the effects of a top to the linear cant be ignored - or can they ?????? I want to see the effect on the impedance of the amplifier cover, and determine how far away it must be before I can ignore it. If I make it say 4x 90 mm, the anode section of the amplifier is the 450mm high, which with say 100mm for the cathode section, is 550 mm. This I find a bit unacceptable for size.

I wish to find the impedance of a transmission line consisting of an air-spaced line a height above a ground plane, but with another ground plane above it: ie.

GGGG

4560. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Robert Ganter <ganter@ens.ascom.ch>
Message-ID: <31F33A3C.78E@ens.ascom.ch>
Source record: 103942
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Bob Merritt wrote:
>
> nickkral@america.CS.Berkeley.EDU (Nick Kralevich) wrote:
>
> >Does anyone know of a design for a digital microwave transmitter/receiver
> >combo that is available on the internet or in book form? Or
> >perhaps I'm going about this in the wrong direction...
>
> Go to the nearest ham radio store and buy a copy of the ARRL Handbook
> for Radio Amateurs and then read up on the 10Ghz Gunnplexor/2MBPS
> project....Oops, wait a moment, this article is not any more in the ARRL Handbook
anymore! It can be found in another book published by the ARRL. Can't
tell You which at the moment, because I have the books at home. Maybe
somebody else can help here?
Or try http://www.arrl.org

Regards

Robert (HB9NBY)

4561. 144Mhz 4cx250 PA

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Christer.Jogenborn@era.ericsson.se
Message-ID: <4svofu$hg@erinews.ericsson.se>
Source record: 103943

I am looking for articles on 144MHz final
amplifiers, that is - more or less complete
features on projects to complete a PA,
I am short of descriptions of the RF bits.
The choice is a pair of 4cx250 (B?) for SSB use
or a 4cx350.

Anyone with some good references in ham magazines
recently (or ancient ?)

Chris sm0ncl
--

4562. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: pacrimgolf@kuentos.guam.net
Message-ID: <4svtol$i1i@lehi.kuentos.guam.net>
Source record: 103944
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

pantek@ix.netcom.com (RICHARD A. NELSON) wrote:

>In <31F052C4.740A@frii.com> Avatar <avatar@frii.com> writes:
>>
>>Eric Oyen wrote:
>>>
>>> rwc@io.com (RWC) wrote:
>>>
>>> > Well, I *was* looking into possibly starting a hobby out of
>HAM.
>>> >But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I
>see that
>>> >the attitudes and childishness isn't lmited to the people on "CB"
>Radios.
>>> >Perhaps HAM isn't for me after all, if Bill is any indication of
>the
>>> >types of people that are out there.

>today's hams really are not any different than cbers... they just
>crammed for a test. if you are thin skinned pick a different hobby.

>rich wb0ikn

I wouldn't go so far as to say that Rich. What our wanna be friend
needs to realize is that the world is full of assholes, and ham radio
is just a cross section of people that inhabit the world.

73, Jim KH2D

4563. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: "Anthony R. Gold" <tgold@tgold.dialup.access.net>
Message-ID: <838036229snz@tgold.dialup.access.net>
Source record: 103945
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In article <31F2CFF4.62BA@apk.net> no8m@apk.net "Steve Wolf" writes:

> If a fellow is working for two sides of an issue at the same time there
> has to be no proof of conflict. You can not prosecute and defend. There
> needs to be no proof.

Not necessarily, it must depend on how many sides there are. The
question is not whether Chris is working for two sides of an issue
but whether it is for two *opposing* sides. Is there an issue for
which he represents two parties where the advancement of one of his
clients' will come from a disadvantage to the other? If so, then
this would be a conflict. What is that issue where this now obtains
for Chris Imlay, Steve? Is the SBE petitioning for 2m? Is the ARRL
going after the TV bands? Do the parties have conflicting positions
on responsibility for EMC?

> Expressing an opinion that someone in a membership organization is
> out of line is part of the democracy of the organization ... right?

The criticism was not about membership behavior but about the
behavior of a professional employee of two membership organizations
in that employee's professional capacity. Chris did not lose his
rights to defend his professional reputation by joining one or more
of the client organizations.

Regards,
--
Tony - G3SKR / AA2PM email: tgold@panix.com
tgold@microvst.demon.co.uk
packet: g3skr@n0ary.#nocal.ca.usa.na

4564. Re: Small Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Stan Vandiver <kd9be@pla-net.net>
Message-ID: <31F3B8AE.554C@pla-net.net>
Source record: 103946

A Guy named Moe wrote:
>
> I would like to setup a small radio station but I need plans and
> diagrams to build a fm transmiter
>
> thanks

Well, not that I recommend RAMSEY products... but they have FM stereo transmitter kits starting as low as $34.95. You can reach them at 1-800-4HOBBYKITS (1-800-446-2295). Their recent catalog has a $2.00 price tag on it, but I recently got it for free (I didn't request it).

Many folks think they have good kits... my limited experience with them has not been so good. Maybe it depends on what your expectations are. They have other models (more $$$) and accessories, so you might want to get the catalog first and determine your needs, and if they offer what you are looking for.
--

Best regards, Stan
AX.25: KD9BE @ KD9BE.#NWIN.IN
WWW: http://www.pla-net.net/~kd9be/

4565. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4t06hp$3os@newsbf02.news.aol.com>
Source record: 103947

kferguson@aquilagroup.com
(Kevin AstirCS "1U" KO0B) writes:

>
>Due to noise from AF amplifier, don't you want some low pass AF
>filtering on the high voltage side anyway? As long as you limit the
>modulating voltage to the required bandwidth, you are not wasting
>spectrum untill voice gets too distorted to understand, requiring
>repeating of messages. Isn't splatter normally associated with
>overmodulation, which isn't what happens when transformer saturates
>(modulation drops to zero)...Is this really more frequent or more
>bandwidth than a click from a mike switch?

Anytime the waveshape has an abbrupt "bend" or change in direction there is high frequency energy content. Take for example a battery, switch and resistor. Close the switch and current suddenly rises (click) open the switch and it falls (click).

The shape and slope of the rise and fall determine the energy content of the resuting waveform.

By that truism, we know that any squaring or deviation from a sine function in the waveform of the modulating signal results in high frequencies, wich modulate the transmitter and make splatter. Splatter not only occurs from negative modulation peaks, it also occurs from ANY non-linearity in the modulation system.

For example, if a PA has insufficient grid drive or if the screen is not allowed to follow the anode at the proper rate and level, it can produce splatter even with a clean modulator signal of less than 100% modulation level.

AM is probably the most complicated mode to do correctly. Modulation byproducts can bother people up and down the band even if you can't hear "distortion" on the desired frequency.

73 Tom

4566. Re: *NEED HELP TO REBIAS LO VHF MICOR

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: randolph@asic.enet.dec.com
Message-ID: <4t0a6p$apt@mrnews.mro.dec.com>
Source record: 103948

In article <4sreqq$11f@mtinsc01-mgt.ops.worldnet.att.net>, K4PI@WORLDNET.ATT.NET writes...
>I WANT TO REBIAS A LOW VHF MOTOROLA MICOR , 50MHZ, FROM C TO AB1.
>ANYONE DONE THAT? PLAN TO BYPASS PREAMP SECTION AND DRIVE FINALS
>DIRECTLY AS HAVE 10 WATT DRIVE ALREADY. 73 MIKE

Haven't done it, but I've always thought it might make a good, cheap way to build a 100W linear for HF QRP rigs. 0.7V forward bias from a silicon rectifier applied to the bases of the final transistors, and a little feedback from collector to base to stabilize and to flatten the gain across the HF spectrum would probably do it. It might require adding a cap here and there if the transformer windings would short your bias to ground.

Good luck, let us know if you succeed!

==========
Tom Randolph N1OOQ NE-QRP 419 QRP-L 87 ARRL randolph@asic.enet.dec.com
==========

4567. Re: Digital Microwave Radio - 1200bps stinks!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: teazes@gat.com
Message-ID: <4t0gmh$hrv@rosebud.sdsc.edu>
Source record: 103949
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <31F2F5A8.856@hal-pc.org>, Harold Clemons <harold@hal-pc.org> says:
>Check into persoft equipment at http://www.petsoft.com
>they use Radio (microwave I think) for line of sight LAN
>connections of up to 5 Miles.

This really leaves me wondering about the future of AX.25 ameteur packet
radio on 2m/220/440. Bandwidth restrictions in metropolitan areas pretty
much limit us to 9600bps. Other than keyboard-to-keyboard comm,
what's the point? This is way too slow to run TCP/IP and interface
with the Internet, so why not just go to 2Mbps ethernet bridges on 900Mhz,
and avoid all the amateur restrictions and politics?

Hmmmm, maybe I just answered my own question;
engrained-tightwad-ham politics will keep the amateurs running
at 1200bps - sheesh!

4568. Re: Antenna for 2 Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: b-holt3@ti.com
Message-ID: <4t0l1s$eeq@mksrv1.dseg.ti.com>
Source record: 103950

In article <01bb7687.4b21f600$d3681fce@mjs-enterprises>, "vigilant" <vigilant@cetlink.net> wrote:
>take an so-239 and make a 2m groundplane antenna......get it up as high as
>you can and feed it with the lowes loss coax you have.....you should able
>to hit paket stations......
>
>> > I have quite a bit of experience with building HF antennas but zero
>> > experience with VHF. Anyone have any suggestions?
>> > Thanks
>> > Dave LeDuc K1EPJ
>

FYI: I made this antenna (found it in the AARL antenna handbook). It is in my the attic (about 20 feet high). On ~1.5 - 2 W I can talk on repeaters > 20 miles away.

Regards,
Brendon Holt
KC5VCW

4569. Remote Door Lock Transmitter for GM Car

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Douglas Berry <dberry@wcl.on.ca>
Message-ID: <4t0b11$fki@nr1.toronto.istar.net>
Source record: 103951
Cross-posted to: sci.electronics.repair,rec.radio.amateur.homebrew

I have a remote door lock transmitter for a Oldsmobile Royale that is not unlocking the doors. I'am trying to determine if it is the transmitter or the reciever in the car. My question is, does anyone no the frequencies that GM use in there remote transmitters. Using the Scope I tested the crystal and found that it is oscillating. Any help would be appreciated.

Thanks

Douglas Berry

Email: dberry@wcl.on.ca
Packet: VA3DMB@VE3IJD.#CON.ON.CAN.NOAM

4570. Address for UK Ham Radio Online, July 96 (synchronous detector)

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: chinook@worldlink.ca
Message-ID: <4t0pfk$aqb@beacon.worldlink.ca>
Source record: 103952

For that person looking for the address of Ham Radio Online , well here it is. The demand had been ref the kit to build a synchronous SSB detector for AM listening. Odd in that request must of come from the US due that here in Canada the magazine can be purchased at major stores. Enough QRM, here is where they can reached:

Ham RAdio Online
Nexus Subscription Dept
Tower House, Sovereign Park,
Lathkill St., Market Harborough,
Leicestershire, England
LE169EF

4571. Re: Antenna for 2 Meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: John P Smith <ki4ro@mnsinc.com>
Message-ID: <31F435E6.3AC4@mnsinc.com>
Source record: 103953

DAVID R LEDUC wrote:
>
> I'm waiting for the UPS truck to arrive with my DR-1200 and
> KPC-3 and trying to decide what I should put up for an antenna.
> The closest BBS is 5 miles away and the closest DX packet cluster
> is about 20 miles away.
> I have quite a bit of experience with building HF antennas but zero
> experience with VHF. Anyone have any suggestions?
> Thanks
> Dave LeDuc K1EPJDavid,
I'd go with a vertical of some kind; preferably with a little
gain and a nice low angle of radiation.

73
John KI4RO

4572. CB radio crystal modification

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Tate Gordinier <jibeaux@cenornet.com>
Message-ID: <31F408B7.55BF@cenornet.com>
Source record: 103954

I have been going crazy trying to find any way to add or change frequencies in a Uniden Pro 510xl, if that is possible. Is it possible to do this by just using different crystals, or would using a different crystal mess up the PLL chip? (The PLL is a sm5124.) Thanks in advance for any help.

Tate
jibeaux@cenornet.com

4573. GE Master Pro VHF Manual Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: sidener@crunch.nuc.umr.edu
Message-ID: <4t0v4n$88k@hptemp1.cc.umr.edu>
Source record: 103955

I am looking for a manual for the GE Master Pro VHF radio.
in specific I need information on the reciever.

If you have one you would be willing to sell I would be interested.

Thanks.

Scott Sidener N0WFL
sidener@umr.edu

4574. Re: Video Transmiter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Tate Gordinier <jibeaux@cenornet.com>
Message-ID: <31F40CEF.3872@cenornet.com>
Source record: 103956

A Guy named Moe wrote:
>
> Does anyone know or have plans to build a Video transmiter???
>
> thanks

There is a two-part article starting in the July 1994 issue of
Electronics Now magazine, you could probably find it at most public
libraries. The article has schematics, parts lists, building and
adjusting instructions, and circut board layout plans for several
different transmitters and a reciever. There are plans for a 5-watt 3
channel audio/video transmitter, a 3/4 watt audio video transmitter, a
3/4 watt video only transmitter, and a reciever that will go directly to
a TV. The article also gives a company that sells kits.
I am in the process of building a 3/4 watt transmitter from the
plans and have had some problems finding a few transistors, but most of
the parts are readily available through mail order catalogs.
I hope any of this is helpfull

Tate
jibeaux@cenornet.com

4575. Re: ICOM R-7000 12 VOLT DC OPERATION

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Brian Olliver <briano@briano.demon.co.uk>
Message-ID: <71u16NAsNv8xEwJR@briano.demon.co.uk>
Source record: 103957

In article <4sk2mk$gu@news.flinet.com>, Bill Hayhurst <billh@flinet.com>
writes
>Does anyone know the wiring of this radio for 12 volts dc?
>
>Icom offers a kit for $30.00.
>
>Seems like it should be simple. Any help???
>
>Thanks. Bill Hayhurst KE4IDU
>

--hello
if you have a look in the circuit diagram you will see that the set is
powered from a bridge diode assy which gives 12 volts
a friend of mine just poked a couple of wires on the + and -
and fed it with 12 volts from the vehicle
i would suggest including a fuse and a 12v low drop out regulator
in series and possibly a reverse protection diode and a 14.6v zener
parralelled before the radio just for safety and a electrolytic
with a low inductance capacitor in parallel to reduce generator and
ignition noise

Brian Olliver G8DQQ May i appologies for being english but i didn't
have a choice

4576. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: whowell@ici.net
Message-ID: <4t00fn$mm9@bashir.ici.net>
Source record: 103958
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

>Roger J. Buffington
>W6VZV
>USC Law School Class of '97
>
>rogerjb@earthlink.net
>
>"I want to die peacefully, in my sleep, like my grandfather.
>Not screaming, and in terror, like his passengers."
>

fellow hams,

I may have been wrong about ALL lawyers,
of course,
Roger ain't really a lawyer, yet.

73 Bill N1IPQ

4577. Re: Need INFO, EVERYONE PLEASE READ!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: pantek@ix.netcom.com
Message-ID: <4sv6so$hl3@sjx-ixn2.ix.netcom.com>
Source record: 103959
Cross-posted to: rec.radio.amateur.misc,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

In <31F052C4.740A@frii.com> Avatar <avatar@frii.com> writes:
>
>Eric Oyen wrote:
>>
>> rwc@io.com (RWC) wrote:
>>
>> > Well, I *was* looking into possibly starting a hobby out of
HAM.
>> >But judging by these past 2 posts, one by Bill Newkirk WB9IVR, I
see that
>> >the attitudes and childishness isn't lmited to the people on "CB"
Radios.
>> >Perhaps HAM isn't for me after all, if Bill is any indication of
the
>> >types of people that are out there.
>> Don't let the actions of a few bad apples sway your opinion of many
>> fine people. We all have our faults (yes, that is part of being
human)
>> and some people display them with much higher intensity.
>>
>> > I was told that if a person needed a question answered or
some
>> >kind of help, that other HAM operators were happy to help out, and
that
>> >the operators of HAM radios were like a family. But what I've just
seen
>> >sounds like Channel 19 at a truck stop. No doubt I'll receive a
bunch of
>> >childish ranting and raving, cussing, etc in my mail box, so until
>> >then... Ciao!
>
>It is unfortunate that your initial exposure to Hams has been
negative.
>The fact is that you are dealing with people and some aren't so nice.
I
>was first licensed in 1952. It seems to me that Hams at that time were

>more helpful, courteous and well mannered. Yes, there were isolated
cases
>of jerks on the air then. I have noticed, however, that the number of
>jerks on the air have increased over the years. There is always the
>option that you don't have to associate with them. There are plenty of

>Hams with white hats left. Ham radio has several areas of interest
other
>than just communicating on the radio. My primary interest in the hobby

>was and still is designing and building equipment. I do very little
>operating. You need to sort out what area of the hobby interests you
and
>consider if it offers enough to put up with a few bad apples.
>
>Regards,
>W0MAY
>
today's hams really are not any different than cbers... they just
crammed for a test. if you are thin skinned pick a different hobby.

rich wb0ikn

4578. Re: B&W Coil Stock Supplier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: pantek@ix.netcom.com
Message-ID: <4sv5tr$984@dfw-ixnews5.ix.netcom.com>
Source record: 103960
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna

In <31EAABF1.2C24@elec.ctl.etn.com> Paul Knight
<pknight@elec.ctl.etn.com> writes:
>
>Hi! I need to procure some B&W airwound coil stock for a project,
>and was hoping that someone could recommend a supplier for such. I
>haven't ordered it in years, and the last company I got some from
>is no longer in business.
>
>If it matters, I need a length (8" or so) of 3 in. dia. stock, 6 TPI.
>
>Please drop me a note if you've acquired some recently.
>
>--
>Thanks!
>
>Paul Knight WD8DKY
>pknight@elec.ctl.etn.com
>
>-or-
>
>PEKnSLK@aol.com

i thinkt that i recently saw b&w in a Hosfelt Electronics" catalog.

rich wb0ikn

4579. How to detect WHICH PL tone receiving?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: dgf@netcom.com
Message-ID: <dgfDuyDp6.Htx@netcom.com>
Source record: 103961

I'm working on a simple remote base setup for my house, using 1.2 GHz FM as the access frequency. I thought of a simple way to control features of the remote base (mostly to be used to access HF) would be to transmit on different PL tones so that the remote base would detect the PL tone in use, and take different actions (frequency up/down, mode change, etc.) based on which tone is being received at a given moment. All of this is in lieu of DTMF tones.

So the question is: are there any published circuits (chip or circuit level) that would output a digital word (5-6 bits?) based on which PL tone is in the received signal at a given instant in time?

73 Dave WB0GAZ dgf@netcom.com

4580. WANTED!!! Plans for microphone switch box

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: rblair8399@aol.com
Message-ID: <4t02dh$22b@newsbf02.news.aol.com>
Source record: 103962

I'm looking for plans to build a microphone switch box. These plans were featured in CQ magazine circa 1988-89 (not sure which issue).

Any assistance is greatly appreciated.

email me @:
rblair8399@aol.com

4581. Re: How to detect WHICH PL tone receiving?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Jeff King <jeff@mich.com>
Message-ID: <31F40FF5.2BAC@mich.com>
Source record: 103963

David Feldman wrote:

> So the question is: are there any published circuits (chip or circuit
> level) that would output a digital word (5-6 bits?) based on which PL
> tone is in the received signal at a given instant in time?
>
> 73 Dave WB0GAZ dgf@netcom.com

Check out MX-COM. They make a number of CTCSS decoders, one of which
I'm sure could be adapted to your needs.

-Jeff WB8WKA

4582. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul22.160835.4408@ke4zv.atl.ga.us>
Source record: 103964
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <31F33A3C.78E@ens.ascom.ch> Robert Ganter <ganter@ens.ascom.ch> writes:
>Bob Merritt wrote:
>>
>> nickkral@america.CS.Berkeley.EDU (Nick Kralevich) wrote:
>>
>> >Does anyone know of a design for a digital microwave transmitter/receiver
>> >combo that is available on the internet or in book form? Or
>> >perhaps I'm going about this in the wrong direction...
>>
>> Go to the nearest ham radio store and buy a copy of the ARRL Handbook
>> for Radio Amateurs and then read up on the 10Ghz Gunnplexor/2MBPS
>> project....Oops, wait a moment, this article is not any more in the ARRL Handbook
>anymore! It can be found in another book published by the ARRL. Can't
>tell You which at the moment, because I have the books at home. Maybe
>somebody else can help here?
>Or try http://www.arrl.org
>
>Regards
>
>Robert (HB9NBY)

It's now in _Packet, Speed and More Speed_ also published by the ARRL.
Good book.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4583. Re: very low frequency recievers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960722171431.9934F-100000@spork.callamer.com>
Source record: 103965

Richard, you will probably get all kinds of replies to the WWVB receiver request, but I would like to suggest that one of the more practical series of articles appeared in Radio Electronics for July, August 1972 and September 1973. They were authored by Don Lancaster. A modern version of these circuits would do us all quite well! Cliff Buttschardt K7RR
On 22 Jul 1996, RICHARD A. NELSON wrote:

> In <4sbp84$7hh@synthemesc.insync.net> firewevr@insync.net (erikc)
> writes:
> >
> >I am looking for schematics and other information to build
> >a 60 kilohertz reciever for WWVB transmissions. I would
> >like to recover both the reconstructed carrier and the
> >modulation that contains the time code. Any information
> >on this subject would be appreciated. Thanks in advance.
> >
> >Erikc
> >
> >
> >
>
> you want to receive it and i want to filter it out!!!
>
> rich, wb0ikn (1 mile south of wwv)
>
>
>

4584. Re: buidling a transmiter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <31F44670.7875@flinet.com>
Source record: 103966

Shawn Kubik wrote:
>
> I am looking for plans to build a FM Transmiter. I realy what plans for
> a transmiter no mater how big or small
>
> thanks
i your request you asked for plans to build a fm tx well heres how to
get both a tx and rx plans for free as well as lots of free data. goto
the motorola page on the www and order their book Analog/interface ics
device data vol.II(dl128/D rev5)on page 8-48 is the mc2833 ic it need
just a handfull of external parts for a vhf fm tx. and on page8-88 is
the mc 3363 ic this is a fm rx IC again few external parts and you in
business i built the tx on a 1.5" x 1.5" board powered by a 9volt
battery it works fine the tx power was +5dbm on mine. Motorola has some
great books for free for the asking !

4585. Re: buidling a transmiter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <31F44774.675@flinet.com>
Source record: 103967

Shawn Kubik wrote:
>
> I am looking for plans to build a FM Transmiter. I realy what plans for
> a transmiter no mater how big or small
>
> thanks
did you get my reply on fm tx and rx circuits for free ?
duane@flinet.com

4586. Re: Source of Ferrite Beads?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: Charlie Panek <charlier@lsid.hp.com>
Message-ID: <31F40FEC.7D5D@lsid.hp.com>
Source record: 103968

fiz wrote:
>
> Hi,
>
> Can anyone recommend a place to get ferrite beads big enough to slip over
> RG-58? They don't need to slip over the BNC connector, only the cable,
> 0.2" OD.
>
> ttfn fiz (KG0YG)

Unfortunately FT-43-XX cores are just a little too small to fit ober
RG-58, so you'd need to get FT-50 cores. I think for RFI supression/
choking at HF, a -43 or -77 mix is what you want.

Dan's Small Parts has prices on Ferrite cores that are much better
than Amidon or Palomar. (FT-50-43 are 3/$1.25) Check out his catalog:
http://www.fix.net/dans.html

(I have no affiliation with Dan's Small Parts, except that I just
placed an order for some cores from him... We'll see if they arrive ok)

--
Charlie Panek Hewlett Packard Company
charlier@lsid.hp.com Lake Stevens Division
Everett, Washington

4587. Z8530 SCC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: John Clark <clarkjc@craft.camp.clarkson.edu>
Message-ID: <31F44B75.72AD3666@craft.camp.clarkson.edu>
Source record: 103969
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Does anyone know where I can purchase one of these ICs? I can't seem to find it from anywhere I normally order from.... (Either the Zilog or AMD version is fine...) Thanks.

- John

4588. diversity system

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: ee31kl@central.surrey.ac.uk
Message-ID: <4t0hha$jgj@info-server.surrey.ac.uk>
Source record: 103970

Does anyone here know have any design information or knows where i
can get hold of any on the topic of spacial diversity. if so
please mail me on ee31kl@surrey.ac.uk

Thanks

4589. Re:Regency RTE202

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: mack@mails.imed.COM
Message-ID: <9606228380.AA838049790@mails.imed.com>
Source record: 103971

Don asked about modifying this radio to 900 MHz. If it is the same model of business band radio that I have several of, it will be a difficult task if you keep the duplexor. I basically cannibalized one of them to see what makes it tick. It has a lot of nice parts that could be used to make a 900 MHz radio, though.

The best part is that I have a *complete* service manual for whatever model it is I have. The manual and radios are at home right now. I'll try to look tonight.

Ray Mack
WD5IFS
mack@mails.imed.com
Friendswood (Houston), TX

4590. Sweep Tubes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-22 00:00:00 UTC
From: George Harris <103021.3555@CompuServe.COM>
Message-ID: <4t0jqh$j14$1@mhadf.production.compuserve.com>
Source record: 103972
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.cb,rec.radio.swap

Hi,
I have 2 6KD6 sweep tubes. I purchased them for an amp and
found that they were physically too tall. I would gladly trade
for 2 6LF6 sweep tubes. They are identical except the lf's are
slightly shorter. Or I will sell them for $12.00 a piece.

73
george

--
@@@
@ Remember, Take Care of Number 1 @
@ And Don't Step in Number 2 @
@@@

4591. Might be FAQs: Wireless communication: anybody want to help me out ?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: G.F.Vocking@kub.nl
Message-ID: <G.F.Vocking.39.31F4E339@kub.nl>
Source record: 103833

Hi there,

Sorry to post this question and bother you with what, I think, might be FAQs.

Fascinated with small electronics I would like to make some small devices.

For example I would like to make a communication set out of 2 headsets for full duplex conversation and a range of at least 10 mtrs. This is for use when training/racing on bicycles, so it should be small en light.

I'd also like to figure out how to make a wireless messaging system, which should be a little more complicated than the former project.

Any help will be appreciated. Including references to FAQ's on wireless communication, bugging and all other kinds of small communication devices.

Thanks in advance.

Regards,

Gustaaf

4592. Re: AM Modulating Tube Finals With Solid State Audio Amps

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: Steve Ickes <thebizlk@pop.erols.com>
Message-ID: <31F5AF66.1E2F@pop.erols.com>
Source record: 103834

Kevin AstirCS 1U KO0B wrote:
>
> Idea:
>
> Run a fairly high DC current through the low impedance side of
> transformer to cancel the flux due to plate current through high
> impedance side. The DC plate current on "true AM" final (as apposed
> to DX-60 type controlled carrier stuff) is constant.
>
> The advantage here is that the required impedance of the audio choke
> would be lower, and the choke would be at low voltage, so insulation
> requirement is eased. Given a sufficiently high voltage, you could
> just use a high value resistor here, instead of a choke.
>
> It doesn't have to be exact, youll get a little distortion as you bump
> against saturation one way or the other, but the other polarity should
> reset the core nicely. I guess music broadcasters would object, but I
> don't see losing the peak of one sine wave now and again as being much
> a detriment in a communications application.
>
> If the transformer has a third winding, this could be used for the
> balance current, eliminating the need for coupling cap to audio amp.
>
> If you use a DC coupled audio amp, then you could just put some DC
> bias on the amp's output...no choke!
>
> Maybe you could encorporate low impedance side of transformer into
> collector circuit of a class A audio amp, thus eliminating need for
> seperate choke, coupling caps etc......getting rather an elegant
> approach at this point!
>
> -73, ko0bWay too much work. Just use a blocking cap and an audio reactor
(inductor rated at or above the value of final plate current, and usually
around 50 Hys). No DC flows thru the secondary, only thru the reactor,
which can handle it. This method is called modified heising and has been
used in AM broadcast transmitters for years.

Steve
WB3HUZ

4593. FS: Yeasu FT-757GX CAT HF RIG

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: cono@hobbs.com
Message-ID: <8C50377.00280021AC.uuout@hobbs.com>
Source record: 103835
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

I have forsale a Yeaseu FT-757GX Cat HF Radio and External Antenna Tuner, Heavy duty power supply in MINT Condition! 1000.00 OBO call 201-440-6566

FT-40/41 440 HT forsale, has Quick Charger (NC-50) and exter 5 watt Battery. $275.00 for the radio $75.00 for the quick charger. $30.00 for the FNB41 5 watt battery.

I would consider a trades for:

A Kenwood TS-940AT in Good working order.
A Yeasu FT1000 in Good working order.

CALL 201-440-6566

cono@hobbs.com


```
......ooooo0OOOOo http://www.intac.com/~cono
___,-----.----+_________#_ The Roy Hobbs BBS cono@hobbs.com
|________| |__|__________} Node 1: 201-641-7307
ooooo oo ~ ooO-O-O-O == oo\ Node 2: 201-641-3126
```

4594. HELP - Prob with IC240

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: Scott Macmillan <scotty@golfmike>
Message-ID: <MngrZMACAB9xEwGO@golfmike>
Source record: 103836

Hello, and thanks for your time.
A radio friend of mine has just bought an Icom IC240,
2 meter FM transceiver with a super scan fitted.

The radio has developed a fault with the super scan.
It will scan OK, but when it stops on an active frequency
the channel displayed is not the one the stations are actually
operating on. I have went through every frequency on the radio
with the super scan off, and the channels are on the correct
frequency. i.e. S 20 = 145.500, S 22 = 145.550 etc.

Has anyone came across this fault before?

Does anyone have a schematic diagram for this radio, and
the super scan unit that the they would copy for him?
Costs for copying and mailing repaid of course.

Thanks in advance DE Scott - GM7OMU.

scott@golfmike.demon.co.uk
--
Best 73's DE Scott
GM7OMU - IO75tv.

4595. Re: ICOM R-7000 12 VOLT DC OPERATION

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: k5qq@aol.com
Message-ID: <4t2hhr$54g@newsbf02.news.aol.com>
Source record: 103837

Hi Bill

I have the cable and I think that is all ICOM is selling you for the $30. To run it on 12 VDC, you remove the "jumper" plug out of the back and plug the 12 VDC in there. I think the pin at the top of the triangle is the +12 in and the bottom is the ground.

When the set runs off of 110 volts, the power supply inside puts 12 volts on the 2nd pin and the jumper takes it up to the top pin.

Works great in my car, I just hate to take that much radio for a ride just sitting on the seat!!

Jim K5QQ@AOL.COM

4596. schematics of a transverter 28 Mhz <-> 50 Mhz wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: erwin.cremers@ingram.nl
Message-ID: <4t2i3s$1e0@news.NL.net>
Source record: 103838

Hello,

I'm looking for schematics to build a transverter 28 Mhz <-> 50 Mhz.

If you have any information please let me know,

Greetings 73's

//////////\\\\\\\\\\
Erwin Cremers
Dutch Radio Operator
PE1MGR
\\\\\\\\\\//////////

4597. Re: Digital Microwave Radio - 1200bps stinks!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul23.150748.9040@ke4zv.atl.ga.us>
Source record: 103839
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In article <4t0gmh$hrv@rosebud.sdsc.edu> teazes@gat.com (Stewart Teaze) writes:
>In article <31F2F5A8.856@hal-pc.org>, Harold Clemons <harold@hal-pc.org> says:
>>Check into persoft equipment at http://www.petsoft.com
>>they use Radio (microwave I think) for line of sight LAN
>>connections of up to 5 Miles.
>
>This really leaves me wondering about the future of AX.25 ameteur packet
>radio on 2m/220/440. Bandwidth restrictions in metropolitan areas pretty
>much limit us to 9600bps. Other than keyboard-to-keyboard comm,
>what's the point? This is way too slow to run TCP/IP and interface
>with the Internet, so why not just go to 2Mbps ethernet bridges on 900Mhz,
>and avoid all the amateur restrictions and politics?

1200 baud AFSK has one, and only one, thing going for it. It'll
work through just about any FM voice radio you can find without
any modifications. That lets Joe HT hook it up and get on the
air with it. So it allows quick assembly of ad hoc networks to
meet a limited need, such as shelter logistics communications
in an emergency. (It'll even work through unmodified voice
repeaters in many cases.)

Except for a couple of purpose made data radios, 9600 baud is
going to require modifications to a FM voice radio to work
(despite radio manufacturer advertising hype of "9600 baud
ready" included with virtually every new radio marketed,
which really only means they included a jack labeled "data"
on the back panel). Joe HT isn't going to do those modifications,
and anybody capable of doing them is also capable of going to
the next level. So I see 9600 baud over FM voice radios as a
dead end. (If the manufacturers ever *really* make their radios
"9600 baud ready", then that would be a different story.)

The next step up is raw FSK at 19.2 kb. That's pretty simple
for anyone who knows how to modify a radio to do, but there
are a number of practical drawbacks, most pointedly, the need
for wider receiver filters. The better next step is to abandon
the FM voice radio paradigm entirely and move up to a 56 kb RF
modem. That can be used on 219 MHz, 222 MHz, or 70 cm under
current FCC regulations. The technology is proven, and is now
off the shelf from PacComm. No kludged FM voice radio is needed.
(But an ordinary transverter is.)

56 kb is a respectable data rate. While we'd all like to have
our own personal T1, most of us settle for a 28.8 kb connection

to the internet, and a 56 kb link is a step up from that. And, 56 kb is *as fast as the FCC will let us run below 450 MHz*, so we can't do any better while still taking advantage of the better beyond line of sight propagation offered at VHF and low UHF compared to high UHF and microwave.

This latter factor is what kills any idea of fast microwave networks. Amateurs form a *sparse* network. We aren't located convienently to form line of sight webs. We often need the ability to extend links beyond line of sight in order to reach the next station in the network. Topology of terrain, availability of relay sites, and finances often won't let us do that with microwave relay. We aren't AT&T Long Lines. We don't have condemnation powers, and we certainly don't have the financial resources to set up relay chains like Long Lines used to maintain. We have to make do, and VHF/UHF links let us make do better for our amateur networks than microwaves can.

Note, while beyond line of sight isn't impossible to do at microwave, multipath plays hell with our modulations when we start to approach T1 in a beyond line of sight environment. This starts to get exotic for Billy Bob packeteer to deal with. And it virtually demands carefully surveyed fixed paths, which eliminates the possibility of setting up ad hoc emergency networks.

Except in a few special locations where either amateur packeteer density is very high, or special terrain makes high site relay practical for the mass of amateurs, we need the ability to warp our signals past the line of sight to make the next hop. We're not going to do that at 900 MHz or above at baud much above 56 kb, at least not in enough cases to offer a general solution. We need power to burn our signals past the line of sight, and we need a low enough baud and robust enough modulation to tolerate the multipath that non-line of sight paths will offer (though SS can offer a partial solution to that problem). Right now, that's easier to do at 220 or 440 MHz at 56 kb than at 900 MHz or above at T1. The bits we need are all off the shelf.

In those cases were the path will support it, microwave relay at high baud (T1 or greater), is a great thing. I support anyone who wants to work in that direction. But I don't think it is a general solution to increasing amateur packet network speed.

It is also worth remembering that our objective is *not* to duplicate the internet. We can just use the real internet for that. Amateur packet should exploit the unique mobility and flexibility offered by wireless networking in order to perform the tasks amateurs are best suited to do. That doesn't

include being a common carrier in most cases.

Our greatest strength is our ability to quickly assemble ad hoc networks to meet a specific (and perhaps fleeting) communications need. We need to build on that strength. We usually don't need huge bandwidth capabilities, though we want as much as we can practically get without interfering with our ability to quickly configure flexible networks.

I don't see 1200 baud AFSK going away any time soon on 2m. It is literally the lowest common denominator for quick ad hoc networks. It is virtually a no-brainer solution to simple data transport needs.

To go beyond that, we need plug and play hardware, and robust protocols that are to the maximum extent possible self-configuring and self-healing. We now have an off the shelf answer to the fastest permissible hardware for 70 cm and below. We have TCP/IP. But we don't yet have self-configuring and self-healing layers in the system, IE automated self-actualizing dynamic routing and network management software. (Netrom is the closest thing we have, and that's not good.)

I've harped on the need for this self-configuring and self-healing property as far back as 1986. I know of some work that has been done in this direction, but I don't know of anything that's actually been put in place out in the field. If someone wants a project, this is a good one, and one with applications beyond amateur radio. It shouldn't need a centralized source of control or a centralized database. This lack of dependence on vulnerable centralized sites is essential to our need to be able to configure and heal our ad hoc networks. It must be peer based as much as possible, but it mustn't consume all our limited network bandwidth in the process.

Anybody want the job?

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4598. surface mount board

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <31F46787.3C8A@flinet.com>
Source record: 103840

does anyone know if there is any such thing as a multi purpose sufrace
mount circuit board. I would like to start expermenting with sm parts.
i can find many diffrent multi purpose circuit boards from radio shack
but no surface mount boards.
thanks
duane@flinet.com or ab4be@amsat.org

4599. Re: TV-Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: dcowey@cyberia.com
Message-ID: <4t1eqt$apb@crash.microserve.net>
Source record: 103841

In article <31f282f5.826665392@199.4.94.14>, kaf3@axe.humboldt.edu
says...
>
>I heard it was possible to make a ham radio out of a Tv. Anyone here
>know how?
>
>Thanks
>kaf3@axe.humboldt.edu
>
No longer is it practical to do. Many years back you could make a
useable 30-50 watt cw rig from a tube type tv. These days it is so
impractical to do. Just by old novice gear or old heathkit gear and
go from there. If a person were poor enough to need to build ham gear
from a tv, I think they could still find donated ham gear in less
time than building from old consumer gear. Homebrew isn't cheap
anymore. I know, I built several receivers and power amps.

Just my opinion, 73 KD3SH

4600. Re: schematics of a transverter 28 Mhz <-> 50 Mhz wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960723231513704 32@zetnet.co.uk>
Source record: 103842

In message <4t2i3s$1e0@news.NL.net>
erwin.cremers@ingram.nl (erwin cremers) writes:

> Hello,

> I'm looking for schematics to build a transverter 28 Mhz <-> 50 Mhz.

> If you have any information please let me know,

> Greetings 73's

> ///////////\\\\\\\\\\
> Erwin Cremers
> Dutch Radio Operator
> PE1MGR
> \\\\\\\\\\\///////////

========== comments GM0CSZ / KN6WH
Erwin , May I suggest you get hold of a copy of 'The VHF/UHF DX Book'
published 1992 by DIR Publishing Ltd , ISBN 0 9520468 0 6
Editor is G3SEK who probably can advise on availability.
His e-mail address is : g3sek@ifwtech.demon.co.uk
It's a superb practical book for the home constructor. The chapter
you will be looking for : 'A high performance 50MHz transverter',by
Dave Powis,G4HUP.
Maybe the VERON Service Bureau can supply it. Good Luck with your
homebrew transverter.

Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4601. Re: TV station

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: Will Flor <willf@rrgroup.com>
Message-ID: <31F55381.1283@rrgroup.com>
Source record: 103843

A Guy named Moe wrote:
>
> I was thinking of seting up a TV station using a video camera microphone
> and VCR. anyone know where to get plans to build a transmiter and
> information on a antanna?

Find a magazine called Amateur TV Quarterly. It has the best
hits, tips & tricks for such tinkering. They sell it on the
"newsstand" at AES in Milwaukee - if you want to subscribe (or
order a single copy to check it out, if they have any available)
contact the publisher at: ATVQ@aol.com

73 de KB9JTT

4602. 2meter 250-1kw urgently wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: gerrad madden <radiol@iol.ie>
Message-ID: <4t2nt2$2n5@nuacht.iol.ie>
Source record: 103973

2meter 250-1kw amplifer wanted urgently.
Homebrew will be considered.

Mail to Tony

radiol@iol.ie

4603. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4t2n87$p8n@newsgate.sps.mot.com>
Source record: 103974
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy

"Anthony R. Gold" <tgold@tgold.dialup.access.net> wrote:
>In article <31F2CFF4.62BA@apk.net> no8m@apk.net "Steve Wolf" writes:
>
>> If a fellow is working for two sides of an issue at the same time there
>> has to be no proof of conflict. You can not prosecute and defend. There
>> needs to be no proof.
>
>Not necessarily, it must depend on how many sides there are. The
>question is not whether Chris is working for two sides of an issue
>but whether it is for two *opposing* sides.

I think we should file this whole thing in the trash, and label it
"too many lawyers." Let's see if I've got this straight:

A member of ARRL and SBE publishes a possibly defamatory comment regarding
a lawyer representing both the ARRL and SBE. The lawyer is also a member of
the ARRL and SBE. The lawyer threatens a defamation lawsuit against the person
who published the remark.

The lawyer was hired to represent both the interests of both groups and the
members of both groups. So he's suing somebody he's already been paid to represent
not once, but TWICE. This isn't just conflict of interest, this is absurd.
We don't need satirists to concoct tales like THIS when we have lawyers around.

I can't wait for this lawyer to get elected senator so he can name Congress,
the Supreme Court, the Judicial branch, and the electorate joint plaintiffs
in a defamation suit when they don't call him "Sir, Senator, SIR!" on the floor.

4604. Prototyping boards for SMD?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <DIvyrTAyRN9xEwnp@ifwtech.demon.co.uk>
Source record: 103975

Many potentially useful new ICs are only available in SMD "SO" outlines based on a 0.05-inch pin pitch. How do you work with these ICs on ordinary 0.1-inch prototyping boards?

Has anybody seen such things as SMD to standard DIL adaptors for 8-pin and 16-pin SMD ICs? I'm thinking of something like a small PCB with tracks for 0.05-inch DIL SMDs, that would fan out to the standard 0.1-inch DIL pitch. Such adaptor boards could be either dropped onto a standard DIL header or wire-linked through to 0.1-inch tracks.

I suppose the other alternative would be to glue the SMD straight onto a 0.1-inch DIL header and wire it up by hand.

Are there any 0.1-inch prototyping stripboards like Veroboard/ Vectorboard but with some provisions for 0.05-inch SMDs?

And what about "SSO" devices using 0.025-inch pin spacing?

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4605. Re: schematics of a transverter 28 Mhz <-> 50 Mhz wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: Carl Gregory <cgregory@uiuc.edu>
Message-ID: <31F4FF00.6301@uiuc.edu>
Source record: 103976

erwin cremers wrote:
>
> Hello,
>
> I'm looking for schematics to build a transverter 28 Mhz <-> 50 Mhz.
>
> If you have any information please let me know,

Ten-Tec sells such a converter kit. I bought one at Dayton for about
$10 US. It's just a 4cm square PCB - no case or connectors - so it can
easily be mounted inside the 28MHz IF radio.

73!
Carl, K8CG

4606. Re: Z8530 SCC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: teazes@gat.com
Message-ID: <4t2v71$8c9@rosebud.sdsc.edu>
Source record: 103977
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

In article <31F44B75.72AD3666@craft.camp.clarkson.edu>, John Clark
<clarkjc@craft.camp.clarkson.edu> says:
>
>Does anyone know where I can purchase one of these ICs? I can't seem to
>find it from anywhere I normally order from.... (Either the Zilog or
>AMD version is fine...) Thanks.
>
>- John

My Newark catalog has Z8530 family parts.

It appears you are from Clarkson College, which seems to be
in Potsdam, NY(the sticks). They have a Syracuse,NY branch
at (315)457-4873. If this is not close to you, you can call
information for any moderately-sized city, and get the Newark
branch telephone number.

4607. Re: Prototyping boards for SMD?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: stevem@best.com
Message-ID: <4t3477$ej4@shellx.best.com>
Source record: 103978

In article <DlvyrTAyRN9xEwnp@ifwtech.demon.co.uk>,
Ian White, G3SEK <G3SEK@ifwtech.demon.co.uk> wrote:
>
>Many potentially useful new ICs are only available in SMD "SO" outlines
>based on a 0.05-inch pin pitch. How do you work with these ICs on
>ordinary 0.1-inch prototyping boards?
>
>Has anybody seen such things as SMD to standard DIL adaptors for 8-pin
>and 16-pin SMD ICs? I'm thinking of something like a small PCB with
>tracks for 0.05-inch DIL SMDs, that would fan out to the standard
>0.1-inch DIL pitch. Such adaptor boards could be either dropped onto a
>standard DIL header or wire-linked through to 0.1-inch tracks.
>
>I suppose the other alternative would be to glue the SMD straight onto a
>0.1-inch DIL header and wire it up by hand.
>
>Are there any 0.1-inch prototyping stripboards like Veroboard/
>Vectorboard but with some provisions for 0.05-inch SMDs?
>
>And what about "SSO" devices using 0.025-inch pin spacing?
>
>
>73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
> 'In Practice' columnist for RadCom (RSGB)
>Professionally:
>IFW Technical Services Clear technical English - world-wide.

There are, here in the USA, several different brands of small prototyping
boards which hold one or more standard SO devices and fan the leads out
for conventional wiring techniques. The brand name Serfboards comes to
mind. I think Digi-Key might sell them by mail. Seach for their WEB page.

I have had some success using deadbug techniques with SMT devices on
solid copper PCB scrap. I have even done microwave circuits using
zero lead length techniques with SMT devices on solid copper at
frequencies up to 6GHz.

It can be done, some of the tools to find for your shop which are
helpful are fine point soldering iron, stereo microscope and an
assortment of tweezers.

There are also the many different techniques of doing homebrew PCBs.

I'd be interested in others experiences as well.

The techniques of homebrew are definatly changing. As a microwave enthusiast, I wonder when someone will figure out practical ways to do die attach and microbonding at home!

Steve Muther
WF6R

4608. Re: Digital Microwave Radio - 1200bps stinks!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960723225904704 32@zetnet.co.uk>
Source record: 103979

---------snipped
> Except for a couple of purpose made data radios, 9600 baud is
> going to require modifications to a FM voice radio to work
> (despite radio manufacturer advertising hype of "9600 baud
> ready" included with virtually every new radio marketed,
> which really only means they included a jack labeled "data"
> on the back panel). Joe HT isn't going to do those modifications,
> and anybody capable of doing them is also capable of going to
> the next level. So I see 9600 baud over FM voice radios as a
> dead end. (If the manufacturers ever *really* make their radios
> "9600 baud ready", then that would be a different story.)
---------snipped

> Gary Coffman KE4ZV

Gary ,Could you please educate me . Having read an article in QST on
'ready for 9600Baud'FM radios ,I understood that all the
Yaesu-Kenwood-Icom-etc VHF/UHF radios, ready for 9600Baud, had a
separate TNC output port which in fact inputs the TNC output directly
to the varactor circuit ,thus bypassing the '300-3000Hz conditioned
mike amp '. This is because the 9600Baud signal audio spectrum runs
from very low to approx 7200Hz.(?)
I can't imagine that the 9600Baud connection on some rigs is a fake,
although some rigs appear to have a lower Bit Error Rate (BER) than others.
Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4609. Re: Prototyping boards for SMD?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-23 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <838157284snz@lfheller.demon.co.uk>
Source record: 103980

In article <DlvyrTAyRN9xEwnp@ifwtech.demon.co.uk>
G3SEK@ifwtech.demon.co.uk "Ian White, G3SEK" writes:

> Many potentially useful new ICs are only available in SMD "SO" outlines
> based on a 0.05-inch pin pitch. How do you work with these ICs on
> ordinary 0.1-inch prototyping boards?
>
> Has anybody seen such things as SMD to standard DIL adaptors for 8-pin
> and 16-pin SMD ICs? I'm thinking of something like a small PCB with
> tracks for 0.05-inch DIL SMDs, that would fan out to the standard
> 0.1-inch DIL pitch. Such adaptor boards could be either dropped onto a
> standard DIL header or wire-linked through to 0.1-inch tracks.
>
> I suppose the other alternative would be to glue the SMD straight onto a
> 0.1-inch DIL header and wire it up by hand.
>
> Are there any 0.1-inch prototyping stripboards like Veroboard/
> Vectorboard but with some provisions for 0.05-inch SMDs?
>
> And what about "SSO" devices using 0.025-inch pin spacing?

In the lab at work, we have little PCBs available for single SMD devices
with the SMD pads brought out to larger pads around the edge. The SMDs
are soldered to these and the PCB wired up to the rest of the circuit on
the prototyping board using the larger pads. I don't think these PCBs
are available commercially, we get them made especially for our own use.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

4610. TV Frequinces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F5CBE5.70C6@mailhost.oxford.net>
Source record: 103844

How can I find out the frequences that TV stations are using?

4611. Formula

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F5CBBB.851@mailhost.oxford.net>
Source record: 103845

I need the Formula for building antannas

4612. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: pacrimgolf@kuentos.guam.net
Message-ID: <4t4ssa$g9r@lehi.kuentos.guam.net>
Source record: 103846
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

If you guys want to discuss lawyers and the ARRL, fine. Go for it.
But why does this discussion need to be in six different amateur news
groups ? Why not move it to one, maybe .policy, so those of us who
want to read it can, and those of us who don't want to don't have to
delete it six times every day when we download mail ?

Thanks,
Jim KH2D

(Yes, I know I posted this to all the newsgroups.....)

4613. Re: Formula

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4t4vje$9ln@cc.iu.net>
Source record: 103847

In <31F5CBBB.851@mailhost.oxford.net>, A Guy named Moe <skubik@mailhost.oxford.net>
writes:
>I need the Formula for building antannas

suggest acquiring a copy of either the ARRL Handbook for Radio Amateurs,
the ARRL Antenna Book, or the RSGB equivalent of the above...

and then pick up a dictionary..

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

4614. Re: Plans for Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: kc5ng@dlep1.itg.ti.com
Message-ID: <4t55vj$9ba@mksrv1.dseg.ti.com>
Source record: 103848

In article <31ED66C7.1ADB@mailhost.oxford.net>, skubik@mailhost.oxford.net says...
>
>I am interested in building small transmiters and radios and antanna, if
>you know were I could get plans or if you have them please send them to
>me.

Suggestions to try:

ARRL Radio Amateur's Handbook
W1FB's Design Guide
W1FB's QRP Notebook
QST, 73, Ham Radio magazines (check back issues)

Visit one of the larger ham stores and check their selection of books.
There are others that I've seen that I can't recall the titles of.

4615. Re: TV Frequinces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: wnewkirk@iu.net
Message-ID: <4t50ml$a5j@cc.iu.net>
Source record: 103849

In <31F5CBE5.70C6@mailhost.oxford.net>, A Guy named Moe <skubik@mailhost.oxford.net>
writes:
>How can I find out the frequences that TV stations are using?

probably the world radio and tv handbook..fcc rules..etc.

Bill Newkirk WB9IVR The Space Coast Amateur Technical Group
Melbourne, FL duty now for the future of amateur radio
Lombardi's 1st Law of Business:
Companies succeed in spite of their best effort. If they succeed at all.

4616. I need your old calculator!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: bflamm@ix.netcom.com
Message-ID: <4t5hsm$aom@dfw-ixnews9.ix.netcom.com>
Source record: 103850

Help! Anyone know where I can get some old calculators. Strange as it may seem, I collect them. Yes, I know that makes me a nerd! Yes, I actually pay for them. I'm interested in almost anything (hand-held or desktop) over 10 years old except models that print on paper tape. Hope to hear from you! Thanks!! Bruce
Bflamm@ix.netcom.com

4617. Re: How to detect WHICH PL tone receiving?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: Eric Grabowski <eric.grabowski@software.rockwell.com>
Message-ID: <31F64B84.4F15@software.rockwell.com>
Source record: 103851

David Feldman wrote:
>
> I'm working on a simple remote base setup for my house ...

Motorola 2-way radios have an option called DPL (digital private line)
which uses a binary coded subaudible tone. I believe that each code word
is 23 bits long which should provide you with enough combinations for
just about anything you can think of controlling!

Eric WA8HEB

4618. re: surface mount board

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: lhalliday@creo.bc.CA
Message-ID: <9606248382.AA838229767@mail.creo.bc.ca>
Source record: 103852

Duane asks:

> does anyone know if there is any such thing as a multi purpose
> surface mount circuit board. I would like to start experimenting
> with sm parts...

Allow me to second the suggestion of Surfboards. I bought a selection at Fry's Electronics (Sunnyvale) in the spring. Digi-Key (among others) carry them. They work well.

You can always etch a PC board into little square islands. This too works well.

Laura Halliday VE7LDH "C'est une femme mutine, assez
lhalliday@creo.bc.ca elegante, grave et legere, ayant le
ve7ldh@amsat.org sens du confort et du plaisir
Locator: CN89mg en tout." - C. Deneuve

4619. QRP 3-Bander from 10/89 QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: Paul Knight <pknight@elec.ctl.etn.com>
Message-ID: <31F6A782.1BAC@elec.ctl.etn.com>
Source record: 103853

Hi, everyone! I was wondering if anyone had built up the "QRP 3-Bander"
transceiver for 18-21-24 MHz, featured in the 10/89 issue of QST, as
well as the ARRL Handbook and W1FB's "QRP Classics" book. I'm
looking for a new construction project, as well as a way to get
some WARC band coverage.

Any suggestions/info/advice/flames regarding this rig are welcome.

--
Thanks!

Paul Knight WD8DKY
pknight@elec.ctl.etn.com

-or-

PEKnSLK@aol.com

4620. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: jrouse@infi.net
Message-ID: <4t66p7$bkl@nw101.infi.net>
Source record: 103854
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

This is certainly a good way for an attorney prohibited from advertising
his services to get more free advertising than he could possibly
imagine! I suspect, However, Chris could have meandered well into
his sunset years without having to to endure this endless stream of
utter twaddle.....

73, John KA3DBN
--
John L. Rouse Packet: ka3dbn@ka3rfe.md.usa.noa
Capital-Gazette Communications FAX: 301-464-7027
jrouse@dc.infi.net PHONE: 301-262-3700 X200
john.rouse@reporters.net 410-268-5000

4621. Motorola Plans

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F6C951.D71@mailhost.oxford.net>
Source record: 103855

I have the book Analog/Interface ICs and was told there are transmiter plans in it but can not find them, can some one help?

4622. Re: TV Frequinces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: AC6V <AC6V@ix.netcom.com>
Message-ID: <31F61FB9.2C1E@ix.netcom.com>
Source record: 103856

A Guy named Moe wrote:
>
> How can I find out the frequences that TV stations are using?

Yo Moe! Go to URL:

http://www.planet.net/fccindex/10_khz.html#30_MHz

This is for on the air channels.

For Cable Frequencies, go to:

http://www.planet.net/fccindex/cablech.html

Best Regards from San Diego

Rod

I transmit, therefore I am, I think!!
--
Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

4623. Cavity Parameters & Formulas wanted.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: Bob Engberg <engberg@saic.alaska.net>
Message-ID: <31F6C18C.2F1CF0FB@saic.alaska.net>
Source record: 103857

Any suggestions on books that detail cavity design variables and formulas. Am looking for 29 Mhz, 144 Mhz, and 440 Mhz designs.
Thanks,
--
Bob Engberg K0MVL
phone: 907-272-7108
e-mail: k0mvl@amsat.org

4624. Re: Prototyping boards for SMD?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: jeffa@pax.ssd.loral.com
Message-ID: <1996Jul24.190643.9105@ssd.loral.com>
Source record: 103858

If you have an old HP style pen plotter and a CAD or drawing package that can output to it, you can use a special ink pen (forget the part number; I have it at home) to draw a single sided board for mounting the SMD parts. I've gotten as good as .015" C-C spacing without ink bridging. Pullout your Radio Shack special FeCl etchant, Ammonium persulfate solution, or even old sulfuric acid and etch the board. For QFP's and other small C-C parts (or large pin count parts), it's real nice to pre-tin the board. I suggest using the various Stannous Chloride electroless flash solutions that are available (I remember G.C. (sic?) from Canada makes one; ~1 qt. for ~$10 several years ago). After tinning, flux the board. I use X-32 low residue flux; not rosin based fluxes. Use a small iron (such as a Oryx) and small diameter solder (flux core) on each pin.

4625. Re: FS: Yeasu FT-757GX CAT HF RIG

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: 616@earthlink.net
Message-ID: <31F7093F.2DF@earthlink.net>
Source record: 103859
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

CONO wrote:
>
> I have forsale a Yeaseu FT-757GX Cat HF Radio and External Antenna Tuner, Heavy
> duty power supply in MINT Condition! 1000.00 OBO call 201-440-6566
>
> FT-40/41 440 HT forsale, has Quick Charger (NC-50) and exter 5 watt Battery.
> $275.00 for the radio $75.00 for the quick charger. $30.00 for the FNB41 5 watt
> battery.
>
> I would consider a trades for:
>
> A Kenwood TS-940AT in Good working order.
> A Yeasu FT1000 in Good working order.
>
> CALL 201-440-6566
>
> cono@hobbs.com
>
> ......ooooo0OOOOo http://www.intac.com/~cono
>
> ___,-----.----+_________#_ The Roy Hobbs BBS cono@hobbs.com
>
> |________| |__|__________} Node 1: 201-641-7307
>
> ooooo oo ~ ooO-O-O-O == oo\ Node 2: 201-641-3126$1000 for a 757 what planet are you from
how did you get here please call

home

4626. Re: FS: Yeasu FT-757GX CAT HF RIG

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: 616@earthlink.net
Message-ID: <31F70976.6081@earthlink.net>
Source record: 103860
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

CONO wrote:
>
> I have forsale a Yeaseu FT-757GX Cat HF Radio and External Antenna Tuner, Heavy
> duty power supply in MINT Condition! 1000.00 OBO call 201-440-6566
>
> FT-40/41 440 HT forsale, has Quick Charger (NC-50) and exter 5 watt Battery.
> $275.00 for the radio $75.00 for the quick charger. $30.00 for the FNB41 5 watt
> battery.
>
> I would consider a trades for:
>
> A Kenwood TS-940AT in Good working order.
> A Yeasu FT1000 in Good working order.
>
> CALL 201-440-6566
>
> cono@hobbs.com
>
> ......ooooo0OOOOo http://www.intac.com/~cono
>
> ___,-----.----+_________#_ The Roy Hobbs BBS cono@hobbs.com
>
> |________| |__|__________} Node 1: 201-641-7307
>
> ooooo oo ~ ooO-O-O-O == oo\ Node 2: 201-641-3126$1000 for a 757 what planet are you from
how did you get here please call

home

4627. Re: FS: Yeasu FT-757GX CAT HF RIG

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: 616@earthlink.net
Message-ID: <31F70B97.838@earthlink.net>
Source record: 103861
Cross-posted to: rec.radio.swap,rec.radio.amateur.homebrew

CONO wrote:
>
> I have forsale a Yeaseu FT-757GX Cat HF Radio and External Antenna Tuner, Heavy
> duty power supply in MINT Condition! 1000.00 OBO call 201-440-6566
>
> FT-40/41 440 HT forsale, has Quick Charger (NC-50) and exter 5 watt Battery.
> $275.00 for the radio $75.00 for the quick charger. $30.00 for the FNB41 5 watt
> battery.
>
> I would consider a trades for:
>
> A Kenwood TS-940AT in Good working order.
> A Yeasu FT1000 in Good working order.
>
> CALL 201-440-6566
>
> cono@hobbs.com
>
> ......ooooo0OOOOo http://www.intac.com/~cono
>
> ___,-----.----+_________#_ The Roy Hobbs BBS cono@hobbs.com
>
> |________| |__|__________} Node 1: 201-641-7307
>
> ooooo oo ~ ooO-O-O-O == oo\ Node 2: 201-641-3126$1000 for a 757 what planet are you from
how did you get here please call home

4628. Re: Z8530 SCC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: John Clark <clarkjc@craft.camp.clarkson.edu>
Message-ID: <31F6E287.76BE0DBD@craft.camp.clarkson.edu>
Source record: 103862
Cross-posted to: rec.radio.amateur.digital.misc,rec.radio.amateur.homebrew

Stewart Teaze wrote:
> My Newark catalog has Z8530 family parts.

Hmmmm... I guess I must have missed it in there... Thanks.

- John (N3IFG)

4629. Re: TV Frequinces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: Dave Curtis <david_b_curtis@ccm.sc.intel.com>
Message-ID: <31F66DE3.2405@ccm.sc.intel.com>
Source record: 103863

```
>
> How can I find out the frequences that TV stations are using?
ARRL info server has a list.
-Dave NG0X
```

4630. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: hansen@ee.ucla.edu
Message-ID: <Dv2Bz3.7FC@seas.ucla.edu>
Source record: 103864
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Will Flor (willf@rrgroup.com) wrote:

: Definitely true; however, the original poster was discussing
: homebrewing components, which is incompatible with legal
: operation under Part 15 (unless you're willing to fork over
: Big Buck$$ to have your homebrew design type-certified by the
: FCC.)

: 73 de KB9JTT

This is true. Home-brewing a device to operate under Part 15 is not practical. Amateur radio is really the only practical way to home brew any type of radio transmitter, except extremely low power. If the application is illegal under the amateur radio rules then give up and find something else to do. There are many things in this world to experiment with. It's a bad idea to get fixated on one application (except, of course, VHF contesting) unless someone is paying you.

Chris Hansen, KQ6DW
(also formerly in W2SZ)

4631. Re: TV Frequinces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: Kevin Pounders <pounders@qtm.net>
Message-ID: <31F71430.2BA6@qtm.net>
Source record: 103865

A Guy named Moe wrote:
>
> How can I find out the frequences that TV stations are using?

Visit the "Stupid Scanner Tricks" web site at http://exo.com/~rbarron .
There is frequency listings for TV, cordless phones, drive-thrus, etc...

--

Kevin Pounders, KC8AFW
pounders@qtm.net

4632. Re: AM Modulation with SS Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: jeffd@coriolis.com
Message-ID: <4t5fch$aqu@globe.indirect.com>
Source record: 103866

dougt@rsa.cirrus.COM (Doug Thomson) wrote:

> I have done this using a filament power transformer run backwards. A
>5.0 V secondary filament X-former with a 120 V pri, has a turns ratio
>of approx. 24 to 1. Now runing it backswards and feeding the output
>of a solid state amp @ 8 ohms gives an output impedance of 4.6 K
>(the square of the turns ratio times the pri impedance). A 6146
>running at 750 v and 150 ma needs a 5K laod, pretty close. If the
>filament X-former is rated at 4A secondary, the pri current is 166
>ma. Using a power x-former allows for load current to follow without
>saturating the core. The frequency response is not very good, the
>power x- former was designed to run at 60Hz, but I found that most x-
>former gave 2+ Khz top end, plenty good for AM, as a mater of fact
>the bandwidth need to be limited from the SS bandwidth of greater than
>20 Khz.
> Hope this helps. 73s
>
> Douglas K. Thomson, KB4OQO
> E-mail: d.k.thomson@ieee.org
>

Excellent! I hadn't thought of this. I have a reasonably husky 2.5V
filament transformer on the shelf (those were for 866A rectifiers,
right?) which would give a 48:1 ratio, and if fed with a 4 ohm audio
power source (which most of the solid state amps deliver) would match
about 9K ohms in the plate circuit, which is doable with most of the
tubes I'd be willing to fool with. I guess the unanswered question is
whether a 2.5V filament transformer would clip the audio frequencies
even further; I'm not sure what the governing physics is in this case.
I would guess the audio response would be better but I'm not sure.
Any thoughts there?

Thanks for your response. I KNEW there'd be a use for that old 2.5V
transformer one of these days...

--73--

--Jeff Duntemann KG7JF
Scottsdale, Arizona

4633. Re: Formula

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960724221435.22609C-100000@spork.callamer.com>
Source record: 103867

cut wire--put it up in the air--wow! Geez!!

On Wed, 24 Jul 1996, A Guy named Moe wrote:

> I need the Formula for building antannas
>
>

4634. Re: surface mount board

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: jlkolb@sd.cts.com
Message-ID: <4t4dgs$4f3@optional.cts.com>
Source record: 103868

duane (duane@flinet.com) wrote:
: does anyone know if there is any such thing as a multi purpose sufrace
: mount circuit board. I would like to start expermenting with sm parts.
: i can find many diffrent multi purpose circuit boards from radio shack
: but no surface mount boards.
: thanks
: duane@flinet.com or ab4be@amsat.org

Gateway, in San Diego, sells "SURFBOARDS", from Capital Advanced
Technologies, Inc. Carol Stream, IL. These are small PC
boards with a single IC pattern fanning out to pads for soldering
wires to. $1.79 for a 16 pin SO package, up to $4-5 for larger IC's

4635. Re: Digital Microwave Radio - 1200bps stinks!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: Peter.Delmotte@mech.kuleuven.ac.be
Message-ID: <4t5ho8$t1f@chaos.kulnet.kuleuven.ac.be>
Source record: 103869

In article <19960723225904704 32@zetnet.co.uk>, frank.dinger@zetnet.co.uk
says...
>
:Gary ,Could you please educate me . Having read an article in QST on
:'ready for 9600Baud'FM radios ,I understood that all the
:Yaesu-Kenwood-Icom-etc VHF/UHF radios, ready for 9600Baud, had a
:separate TNC output port which in fact inputs the TNC output directly
:to the varactor circuit ,thus bypassing the '300-3000Hz conditioned
:mike amp '. This is because the 9600Baud signal audio spectrum runs
:from very low to approx 7200Hz.(?)
:I can't imagine that the 9600Baud connection on some rigs is a fake,
:although some rigs appear to have a lower Bit Error Rate (BER) than others.
:Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
:

Even with an input directly to the varactor circuit, there still is
a problem: the PLL. It doesn't do to much to the higher frequencies,
but the lower ones (e.g. below 300Hz) are filtered out by the PLL, trying
to keep the frequency "right". Only a modulator _outside_ the PLL loop
can give you a flat frequency response down to DC. (I admit, you don't
need DC, but the lower you get, the better.) In my opinion, the best
9600 radios are multi-mode rigs with a fixed-frequency modulator (no PLL!),
fed into a mixer.

Peter

4636. Re: AM Modulation with SS Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-24 00:00:00 UTC
From: w8jitom@aol.com
Message-ID: <4t6m7t$cg9@newsbf02.news.aol.com>
Source record: 103870

In article <4t5fch$aqu@globe.indirect.com>, jeffd@coriolis.com (Jeff Duntemann) writes:

>Excellent! I hadn't thought of this. I have a reasonably husky 2.5V
>filament transformer on the shelf (those were for 866A rectifiers,
>right?) which would give a 48:1 ratio, and if fed with a 4 ohm audio
>power source (which most of the solid state amps deliver) would match
>about 9K ohms in the plate circuit, which is doable with most of the
>tubes I'd be willing to fool with. I guess the unanswered question is
>whether a 2.5V filament transformer would clip the audio frequencies
>even further; I'm not sure what the governing physics is in this case.
>I would guess the audio response would be better but I'm not sure.
>Any thoughts there?

Audio response is limited by core eddy currents causing a loss of permeability as frequency is raised, and by the winding method. Good audio transformers have the windings interleaved, so flux losses are reduced and coupling is improved.

Remember the power amplifier MUST be class C to be properly modulated, and if it's a tetrode the screen must also be tickled with a little audio. If it's a triode, the preceeding stage also may need to be modulated.

73 Tom

4637. Re: PCB resources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: stevem@best.com
Message-ID: <4t8qo9$f47@shellx.best.com>
Source record: 103784

In article <4t8mq2$11s@jan.et.byu.edu>,
Richard Christensen <richardc@et.byu.edu> wrote:
>I am interested in making some projects for myself. Does anyone
>have knowledge of what is available in the way of cheap tools,
>ie: simulators, routers, placers, schematic capture, and pcb makers.
>
>One project I want to do will require a lot of drilling, so I
>really don't want to do this board myself at home.
>
>
>--
> /\ /\ . /____
> _-_ / \ _/\ / \ /\ / \ /\
>/ \ / \ / \ /\/ \ / _/_/ Y \ /\/\/ \
> u \/ ___/ \/ \ / \/ \
>----------------------------------v-------------------------------
>Richard Christensen KC7JPQ
>richardc@spock.et.byu.edu Go Cougars!! Beat Utah!!!
>

Protel Technologies offers a Freeware PCB layout package that works
reasonably well and will run on an old '286. They are at:
http://www.protel.com You might also try posting your question on
sci.electronics.cad and probably get a lot of answers.

Steve Muther WF6R

4638. 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkDv3z7J.4vB@netcom.com>
Source record: 103785
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

I am trying to build or obtain a device which can translate signals from from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast band, 100-104Mhz). This will be used in conjuction with an FM broadcast receiver to demodulate FM signals which are in the 0-4Mhz range. I've heard that such devices exist, but am unable to locate one. Does anyone know who sells something like this or plans on how to make one?

Or could you perhaps "hack" a device which modulates video for RF on channel 3 or 4 (60-70Mhz). Does anyone know any details on how this could be done?

4639. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: rodhew@intr.net
Message-ID: <31f7f8cd.1183837@news.intr.net>
Source record: 103786
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

slwork@netcom.com (Steve Work) wrote:

>I am trying to build or obtain a device which can translate signals from
>from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast band,
>100-104Mhz). This will be used in conjuction with an FM broadcast
>receiver to demodulate FM signals which are in the 0-4Mhz range. I've
>heard that such devices exist, but am unable to locate one. Does anyone
>know who sells something like this or plans on how to make one?
>
>Or could you perhaps "hack" a device which modulates video for RF on
>channel 3 or 4 (60-70Mhz). Does anyone know any details on how this could
>be done?

I tried hooking up an RF modulator to the baseband video output and
then tuned it with a TV-Band radio. Didn't have much luck with any FM2
stuff because the bandwidth of the radio was too great, but it did
work - I could tune the audio subcarriers quite easily.

Regards,
Rod

4640. Re: TV Frequinces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <31F7C68D.3725@vcd.hp.com>
Source record: 103787

A Guy named Moe wrote:
>
> How can I find out the frequences that TV stations are using?

Moe,

It would help if you would use a dictionary or spell checker
on your posts. (RE: ANTANNA for antenna, FREQUINCES for frequencies,
etc!).

Look in any ARRL Handbook for all the information you bave requested.
In there you will learn that each TV station has a picture carrier
which is amplitude modulated (AM). In addition there is a sound
carrier, which is frequency modulated (FM). Each channel occupies 6 MHz
of assigned channel bandwidth.

GL and 73,

Don, W6JL

4641. schematics for scanner

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <31F82F8D.5FEF@flinet.com>
Source record: 103788

hi guys, anyone have a schematic for a bearcat 210wxl or block diagram
and parts placement sheet. i'm tring to fix one now. I could just go out
and buy a new scanner but i wouldn't get the experince of repairing one
that way. the problem is the display is blank, cnat receive any
channles, i dont know if the freq. i'm entering is going in because i
cant see it... oh well i can hear the squelech tho.
thanks
duane@flinet.com

4642. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Steve Wolf <no8m@apk.net>
Message-ID: <31F8306B.5F25@apk.net>
Source record: 103789
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

Well, its a week or so after I posted a question and the lack of
any answer makes me wonder if the fellow should get sued.

I ask my question again ...

Is there any rock solid evidence that the SBE and ARRL are opposed
to any particular issue? By "rock solid" I mean something like a
comment on a rulemaking from the SBE that would be contrary to an
ARRL position on the issue. Or maybe a SBE article that expounds
a position that is obviously anti-amateur radio.

Is the SBE for taking away 40 meters from the amateurs? Perhaps they
want two meters?

Anyone??? Something I can get a copy of ... a magazine article ...
something??? KG7FU???

--
73,
Steve
Internet: no8m@apk.net
Amateur Radio: no8m@no8m.#neoh.oh.usa.na
MSYS Mail List: msys-request@hamnet.org ('info' for title)

4643. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Charles Wenzel <wenzel@wenzel.com>
Message-ID: <31F868C7.5100@wenzel.com>
Source record: 103790
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

A straightforward approach is to drive an RF port of a double-balanced mixer with a 100 MHz crystal oscillator. Feed the 0-4 MHz into the IF port through a low-pass filter (passing greater than 4 MHz but not too high). The receiver is connected to the other RF port.

4644. SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: art2@usa.pipeline.com
Message-ID: <4t8quj$k9f@news2.h1.usa.pipeline.com>
Source record: 103791

For the life of me I can't understand why full fledged
hams insist on spelling "reciever" instead of "RECEIVER".

73's de Art

4645. Re: schematics of a transverter 28 Mhz <-> 50 Mhz wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: stevem@best.com
Message-ID: <4t956r$3v6@shellx.best.com>
Source record: 103792

In article <4t93d7$5gr@cletus.bright.net>, norman <norsan@bright.net> wrote:
>TEN-TEC makes a nice 10 to 50 MC transverter kit. Cost is $100.
>This might be better than trying to find all the right parts.
>good luck
>
>73, Norm N8RGR norsan@bright.net
>

My Ten-Tec catalog shows they make a 20 meter to 6 meter transverter.
I see no options for 10 meter IF. I think there was a review in a
recent QST.

Steve M.

4646. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: rogerjb@earthlink.net
Message-ID: <4t91dj$cbt@uruguay.it.earthlink.net>
Source record: 103793
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In <4t00fn$mm9@bashir.ici.net>, whowell@ici.net (William H. Howell) writes:
>>Roger J. Buffington
>>W6VZV
>>USC Law School Class of '97
>>
>>rogerjb@earthlink.net
>>
>>"I want to die peacefully, in my sleep, like my grandfather.
>>Not screaming, and in terror, like his passengers."
>>
>
>fellow hams,
>
>I may have been wrong about ALL lawyers,
>of course,
>Roger ain't really a lawyer, yet.
>
>73 Bill N1IPQ

That is correct, Bill, and I took pains to point that out in my post, right there at the beginning. Please don't imply otherwise to those who didn't read my post...

I am a California-licensed CPA, but admission to the bar is still a year or so away...

73

Roger J. Buffington
W6VZV
USC Law School Class of '97

rogerjb@earthlink.net

"I want to die peacefully, in my sleep, like my grandfather.
Not screaming, and in terror, like his passengers."

4647. High voltage transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Paul Beastall <paulb@garden.bt.co.uk>
Message-ID: <4t83tj$n0r@pheidippides.axion.bt.co.uk>
Source record: 103794

I'm trying to find a transformer suitable for a pair of 3cx800a7 triodes
and in the UK I would have to have one made as a special.

I understand that in the States there may be some off the shelf options
(Peter Dahl or Avatar Magnetics?). Does anyone have any details or can
they point me in the right direction?

Thanks

Paul Beastall, G1WBZ
Ipswich, UK.

4648. Siliconix/MACom VMP-4

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: johnsonhe@aol.com
Message-ID: <4t91ih$8d8@newsbf02.news.aol.com>
Source record: 103795

Siliconix used to make, (and MACom second sourced) a vertical MOS device known as the VMP-4. roughly 10 watt 28 volt transistor.
They're obsolete now, and neither company is making them anymore. Anyone with one or a few that they'd like to turn into cash, E-mail JohnsonHE@AOL.com
Mni Tnx

4649. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDv5trI.FrJ@netcom.com>
Source record: 103796
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

in <31F5515C.2CD0@rrgroup.com>, Will Flor wrote:
: Definitely true; however, the original poster was discussing
: homebrewing components, which is incompatible with legal
: operation under Part 15 (unless you're willing to fork over
: Big Buck$$ to have your homebrew design type-certified by the
: FCC.)

Wrong. There's a hobby exclusion in part 15. (At least as of the
October 1991 copy I have on my desk.)

"15.23 Home-built devices.

(a) Equipment authorization is not required for devices that are
not marketed, are not constructed from a kit, and are built in
quantities of five or less for personal use." ...

And subparagraph b is about using "good engineering practice" where
the home builder is not able to test for full compliance.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

4650. Re: Distance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <31F83218.A2F@flinet.com>
Source record: 103797
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment

A Guy named Moe wrote:
>
> I am wondering what is the main factor in deturmaning the distance that
> a signal my be sent quickly and with clear reception?
>
> thanks
it all depends on how you hold your toung moe, when you plug it up. And
as to where you insert the plug too. If you feed it a kilo watt your
neighbor should be able to hear you, if you run it horizontal at ground
level. as to the speed i dont know if i can improve much on the speed of
light... however if you run your thing a ma jig in a vacume you will
imporve the speed factor by a ratio of 1.12343765896 to 1 . with this
improvement your signal will be the first one to the receiving antenna
thereby allowing you first bid on the listners ear. hope this helps moe

4651. Re: cell phone conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Steve Roberts <osteven@en.com>
Message-ID: <4t6pto$rgv@antares.en.com>
Source record: 103798

kproctor@ix.netcom.com (Just Me) wrote:
>
> On Sat, 13 Jul 1996 16:39:16 -0500, Danny Williams
> <williams@flash.net> wrote:
>
> >Has anyone considered on done a conversion of an old cellular phone to a
> >900 mhz. ham tranceiver? Any thoughts or comments appreciated.
> >Danny
> >KB5WER
>
> having stripped down a bunch of older cell phones, I would find one of the
older base stations that used vco's followed by doublers, (the 75.00
dollar unit carried by Timeline Inc,) or the older western Electric base transmitters
and replace the 425-440 Mhz vcos in them with minicircuits new $15.00
VCos at 450-470. And reprogram accordingly. I would strongly suggest just buying the
minicircuits VCO module for
for 900 Mhz and getting one of the 10.00 National Semiconductor Plattnum PLLs
from digikey (built in prescaler to 2.5 gigs) and add a low pass filter and a
interface to a PC port, then use a cheap 900 Mhz capable scanner to receive.

The cell phone base stations with the tunable filters might go up,
any thing new has ferrite circulator type filters that are going to block you, plus they
usually use
mixer down-converters or some other odd technology that just wont be to be pushed up,
unless you are lucky enough to have full schematics and access to the
software, as well as the one time programable chips. Its probably easier to roll your
own PLL using off the shelf parts, but strip the amplifier module out of the phone,
then derate its output power by 50% for use at 900, they usually work just fine,
once you figure out the dc bias level on the input pin to set the power level.
cell phones step their power in seven or eight steps by remote control
from the cell site, details can be found on the MHD type amplifiers on
Motorola's web site.

however another route might be to take your 440 rig, turn down the diviation,
hook it to a anttenuator and use it to drive a Minicircuits doubler module,
after reprograming the rig for out of band operation. This is how I finally got
900 Mhz operation, using a doubler out of the Western Electric base station and its Helical
Filters.

Hope this helps somebody, as I've tried 5 different cell phones with no luck.

73 de Steve N8vkd

4652. Re: buidling a transmiter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Robert Ganter <ganter@ens.ascom.ch>
Message-ID: <31F717EE.4FBF@ens.ascom.ch>
Source record: 103799

<skubik@mailhost.oxford.net> (Shawn Kubik) wrote:
----------------^^^^^^
>
> I am looking for plans to build a FM Transmiter. I realy what plans
> for a transmiter no mater how big or small
>
> thanksOxford? How about correct spelling?
Ok, don't want to be a flamer now...

I have seen several posts from You recently, and in none of them it was clear, what You exactly wanted (or it was written so generally, that it was impossible to answer). Try to use the following hints:
- before posting: Think *clearly* about, what You want to know, then post Your question.
- Using a spelling checker (or have a look in a dictionary, if You don't know, how to write a word) is not a shame. IMHO the spelling and grammatical errors You see in posts (from people with English as their native language) is unbelievable. If this is our future...
For me, English is a foreign language I had to learn pretty hard to get used to it. But I try to use it thoroughly.

Try to get some books about Amateur Radio. They are full of plans for any kind of Radio stuff. The ARRL (American Radio Relay League) ist a first class address for such books (http://www.arrl.org).
To use a transmitter (except assembled low power transmitters on some frequencies) You need a license (e.g. Amateur Radio). Transmitting on frequencies not covered by this licence is illegal and may be damned expensive, if You are caught.

Ok, take a breath, think about, what You want and then ask again.

Regards

Robert

4653. Packet Modems

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F7E1E0.23E4@mailhost.oxford.net>
Source record: 103800
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment

Does anyone know how they work and were to get inforation on the net.
I can not go to a local book store because there is not one near by.

4654. Re: Distance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: AC6V <AC6V@ix.netcom.com>
Message-ID: <31F776CE.6784@ix.netcom.com>
Source record: 103801
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment

A Guy named Moe wrote:
>
> I am wondering what is the main factor in deturmaning the distance that
> a signal my be sent quickly and with clear reception?
>
> thanks

Yo Moe. Assuming a decent antenna and transceiver, propagation is the
key word in hurling your signal to the far reaches of the earth.

Take a look at the following URLs

http://www.systemtechnik.tu-ilmenau.de/ham/ham_prop.html

Also:

http://ve7tcp.ampr.org/Propagation/

Another:

http://ion.le.ac.uk/~rb18/sos/radio.html

73 from San Diego

Rod
--
Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

4655. L.O.S.A Contribution Form

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: cj@hth.com
Message-ID: <31f731fe.0@news.buller.se>
Source record: 103802
Cross-posted to: comp.robotics.misc,comp.home.automation,sci.electronics.misc,rec.radio.amateur.homebrew

```
List Of Stamp Applications (L.O.S.A for short)
==============================================

If you have done something with the BASIC Stamp (big or small)
that you are willing to tell others please use the form below and
write a short description, nothing fancy is needed just a simple
explanation. If you have source code to share that's even better but
it's not necessary.

Then e-mail the form to:

cj@hth.com

With the following as the subject:

L.O.S.A Contribution

Or you could point your Web-browser to the following URL and fill in
the L.O.S.A form on the Web-page...

http://www.hth.com/losa.htm

The latest version of L.O.S.A is going to be posted to the following
mailing lists and news groups, I will update it approx. once a month.

Mailing lists:

BASIC Stamp Mailing List

News groups:

comp.robotics.misc
comp.home.automation
sci.electronics.misc
rec.radio.amateur.homebrew

FTP-site:

ftp://ftp.parallaxinc.com/pub/text/losa.txt

You can also find the latest version on the following URL...

http://www.hth.com/losa.htm

[--- cut ---]

=============================================================================
- L.O.S.A Contribution Form -
=============================================================================
```

New Contribution [ ] Update [ ]

Title :
Author: Date:

E-mail: (optional)

Stamp model : BASIC Stamp/BS1-IC/BS2-IC
Code available: YES/NO
Filename : (optional)
URL : (optional)

Description : (5-50 rows describing your application)

==========

[--- cut ---]

If you think something are missing in the "L.O.S.A Contribution Form"
please let me know and I will add it.

Regards,

/Christer

-=-=-=

4656. Re: High and low Frequence Antannas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: AC6V <AC6V@ix.netcom.com>
Message-ID: <31F77B40.3B01@ix.netcom.com>
Source record: 103803
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

A Guy named Moe wrote:
>
> Where can i get information on different types of antannas, how to build
> them and how they work?
>
> thanks

Moe here is an Antenna course and downloadable files are at URL:

http://ampere.scale.uiuc.edu/ece354/

Also check out the Nordic Shortwave Center and click on Antenna Center
at:

http://www.sds.se/org/swl/

Best Regards from San Diego

Rod

--
Hark for I have hurled my words to the far reaches of the earth!
What King of old could do thus??
..... AC6V

4657. Re: Helical Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: tomb@lsid.hp.com
Message-ID: <4t8oer$46p@hpcvsnz.cv.hp.com>
Source record: 103804

Paul Anderson (pander01@harris.com) wrote:
(on helical reaonators)

: It is a high-Q device, with lots of rejection out of its passband. Not
: as high as a "cavity filter," but much smaller and much less expensive.

Just a little added food for thought on them...

The Q depends on the volume and frequency, and for usual (near-optimal)
designs using copper conductors, the unloaded Q is close to

Qu = 50*D*sqrt(f)

where
D is shield inside diameter in inches and f is freq in MHz.

So the tiny helical resonators used in handhelds aren't magically some
fantastic unloaded Q. You need significant volume to make a low-loss
narrow-band filter with them.

Another interesting point that helps remove some of the magic: the
unloaded Q predicted for a shielded inductor is less than the unloaded
Q of an unshielded inductor, generally. The unloaded Q of a helical
resonator is essentially identical to that of the same size shielded
inductor, per predictions of formulas in Howard Sams' "Reference Data
for Radio Engineers." In other words, there's nothing really magical
going on in a helical resonator that gets you some fantastically
increased Q. It simply becomes an appropriate choice for certain
available volumes and frequencies. (RDRE has a graph showing the
range of frequencies and Q's over which it's a most reasonable choice.)

--
Cheers,
Tom
tomb@lsid.hp.com

4658. Re: Prototyping boards for SMD?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Stephen Schiller <schiller@adobe.com>
Message-ID: <31F7F554.1DFB@adobe.com>
Source record: 103805

Stephen Muther wrote:
> The techniques of homebrew are definatly changing. As a microwave
> enthusiast, I wonder when someone will figure out practical ways
> to do die attach and microbonding at home!
>
> Steve Muther
> WF6R

HP sells some microwave devices (mixer diodes and mixer diode briges) in "beam lead" packages. I learned this from their microwave and communication devices catalog.) It seems from the specs that you can get very broadband performance from them. These packages seem to be just a tad bigger than the die itself with the added advantage of protecting the die from atmospheric corosion. The beam lead packages are typically just under a millimeter in their largest dimension. They suggest handling them with a toothpick wetted with isopropyl alcohol. They also mention a variety of ways of attaching them electrically in the catalog, the easiest of which seemed to be using some kind of electrically conductive epoxy. Although they can be soldered with a "wire" tip iron, or compression welded.

What's more, some of these devices are available from Newark in small quantities. Although I haven't tried to order any yet. But I am thinking of it. Seems easier than handing bare die directly.

- S

4659. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: stevem@best.com
Message-ID: <4t8vmh$qjf@shellx.best.com>
Source record: 103806
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

In article <31f7f8cd.1183837@news.intr.net>,
Rod Hewitt <rodhew@intr.net> wrote:
>slwork@netcom.com (Steve Work) wrote:
>
>>I am trying to build or obtain a device which can translate signals from
>>from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast band,
>>100-104Mhz). This will be used in conjuction with an FM broadcast
>>receiver to demodulate FM signals which are in the 0-4Mhz range. I've
>>heard that such devices exist, but am unable to locate one. Does anyone
>>know who sells something like this or plans on how to make one?
>>
>>Or could you perhaps "hack" a device which modulates video for RF on
>>channel 3 or 4 (60-70Mhz). Does anyone know any details on how this could
>>be done?
>
>I tried hooking up an RF modulator to the baseband video output and
>then tuned it with a TV-Band radio. Didn't have much luck with any FM2
>stuff because the bandwidth of the radio was too great, but it did
>work - I could tune the audio subcarriers quite easily.
>
>Regards,
>Rod
>

This technique does work. I just used a bench signal generator,
and later I used an old International Crystal oscillator module
to drive the LO port of a Mini-Circuits SBL series mixer. The
signals from the satellite receiver are a bit high, so some attenuation
may be needed. I did not need any RF or IF amplifiers or filters
around the mixer.

The Bandwidth problem can be solved if you put narrower filters
in the IF of the FM receiver. These filters can be had from the
Toko section if the Digi-Key catalog if I remember correctly.
You can either make a narrow dedicated receiver or, as I did,
you can make sockets for the filters using 3 pins from a machined
IC socket.

Have Fun

Steve Muther WF6R

4660. Re: Helical Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Paul Anderson <pander01@harris.com>
Message-ID: <31F7BF35.57AA@harris.com>
Source record: 103807

erikc wrote:
>
> Can anybody out there explain to me what a "helical filter"
> is and how it works. This is a new one on me. Thanks.
>

Sometimes they are also called helical resonators.

Generally, one consists of a cavity (a metal can), a coil (inside the cavity, connected to it at one end, and unconnected at the other end), and a tuning screw (usually running down thru the coil). At the helical filter's resonant frequency, it's inductive reactance (inductance from the coil) will cancel it's capacitive reactance (capacitance between the coil and the tuning screw & cavity).

Often the filters are stacked together, with coupling via "windows" in the sides of the cavities. A signal can be put into the first stacked coil via a hardwired tap; likewise the signal can be tapped off of the last stacked coil.

It is a high-Q device, with lots of rejection out of its passband. Not as high as a "cavity filter," but much smaller and much less expensive. You will see a lot of them used as preselectors in receiver front-ends. If the tx/rx split is wide enough, they can also be used as filters in relatively inexpensive duplexers.
--

7777777 3333333 **
77 33 ** Paul Anderson, AB4VA **
77 33 ** pander01@harris.com **
77 33 ** AB4VA @ KT4DI.#MLBFL.FL.USA.NA **
77 33 33 **
77 33

4661. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: pip@shore.net
Message-ID: <4t8h3s$oaq@shore.shore.net>
Source record: 103808
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

In article <slworkDv3z7J.4vB@netcom.com>, slwork@netcom.com says...
>
>I am trying to build or obtain a device which can translate signals from
>from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast band,
>100-104Mhz)....

All you need is a 100 MHz Crystal and a multiplier. This is the principle of AM modulation

sin(a) sin (b) = ((cos (a-b) - cos(a+b))/2
so
sin(4) sin(100)= (cos(96) - cos(104))/2

This is the principle of the ADX converter, though it works in the 500 MHZ range.

4662. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: "Christopher W. Boone" <cboone@earthlink.net>
Message-ID: <31F7DD1F.72A3@earthlink.net>
Source record: 103809
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Thor Wiegman wrote:
> As my boss always says "why re-invent the wheel?" Western Multiplex makes
> a little SS unit for 2GHz called the Lynx. These are showing up on the
> surplus market because for high reliablilty/quality most cell techs don't
> like them (a matter of personal taste). I would think that picking up a
> used pair of these would be cheaper and easier than building something
> unless you're looking for the experience. These units don't require a
> license for operation as they are covered under part 15. I've put up 40
> mile hops with them (using 8 foot high performance dishes) so I would
> think that a pair of homebrew yagi's would get the job done for you.

I agree!!! My company has several of the LYNX at 2Ghz operating and are
doing great...one 12 mile hop and some are as much as 28 mile hops!
No problems with them at all!

BTW his idea would be perfect with the LYNX since he would run a straight
T1 connection and at the internet provider would be able to pump right
into their router (maybe without using a DSU!)..

Gee I wish I had that problem!

Chris

4663. PCB resources

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: richardc@et.byu.edu
Message-ID: <4t8mq2$11s@jan.et.byu.edu>
Source record: 103810

I am interested in making some projects for myself. Does anyone
have knowledge of what is available in the way of cheap tools,
ie: simulators, routers, placers, schematic capture, and pcb makers.

One project I want to do will require a lot of drilling, so I
really don't want to do this board myself at home.

--
/\ /\ . /____
_-_ / \ _/\ / \ /\ / \ /\
/ \ / \ / \ /\/ \ / _/_/ Y \ /\/\/ \
u \/ ___/ \/ \ / \/ \
----------------------------------v------------------------------
Richard Christensen KC7JPQ
richardc@spock.et.byu.edu Go Cougars!! Beat Utah!!!

4664. Re: AM Modulation with SS Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Steve Ickes <thebizlk@pop.erols.com>
Message-ID: <31F810FE.27C2@pop.erols.com>
Source record: 103811

W8JI Tom wrote:
>
> In article <4t5fch$aqu@globe.indirect.com>, jeffd@coriolis.com (Jeff
> Duntemann) writes:
>
> >Excellent! I hadn't thought of this. I have a reasonably husky 2.5V
> >filament transformer on the shelf (those were for 866A rectifiers,
> >right?) which would give a 48:1 ratio, and if fed with a 4 ohm audio
> >power source (which most of the solid state amps deliver) would match
> >about 9K ohms in the plate circuit, which is doable with most of the
> >tubes I'd be willing to fool with. I guess the unanswered question is
> >whether a 2.5V filament transformer would clip the audio frequencies
> >even further; I'm not sure what the governing physics is in this case.
> >I would guess the audio response would be better but I'm not sure.
> >Any thoughts there?
>
> Audio response is limited by core eddy currents causing a loss of
> permeability as frequency is raised, and by the winding method. Good audio
> transformers have the windings interleaved, so flux losses are reduced and
> coupling is improved.
>
> Remember the power amplifier MUST be class C to be properly modulated, and
> if it's a tetrode the screen must also be tickled with a little audio. If
> it's a triode, the preceeding stage also may need to be modulated.
>
> 73 TomThe high freqy response of the transformer is determined by the
interwinding capacitance. The leakage inductance also plays a big
factor. Several years back, Glass Audio magazine had a great reprint
article on transformer design amd construction. Check it out if you can
get a copy.

The screen can easily be modulated by deriving the screen voltage thu an
appropriate sized dropping resistor off the high side of the mod
transformer secondary to the screen.

Steve
WB3HUZ

4665. Re: High and low Frequence Antannas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Steve Ellington <n4lq@iglou.com>
Message-ID: <Dv3uuI.AtI@iglou.com>
Source record: 103812
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

Any book store or public libary.

4666. Re: Distance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Steve Ellington <n4lq@iglou.com>
Message-ID: <Dv3urK.AqL@iglou.com>
Source record: 103813
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment

```
Telegraph......slow

Telephone......medium

Telawoman......Fast
```

4667. Distance

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F72DAF.4E45@mailhost.oxford.net>
Source record: 103871
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment

I am wondering what is the main factor in deturmaning the distance that
a signal my be sent quickly and with clear reception?

thanks

4668. Re: CAtalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: sloman@sci'kun.nl
Message-ID: <4t7i9q$l82@wn1.sci.kun.nl>
Source record: 103872
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,ont.forsale,sci.electronics.repair,sci.electronics.equipment,

In the UK and most of continental Europe, see Premier Farnell at
http://www.farnell.co.uk/components/compindex.html - you can ask
for their very comprehensive paper catalogue

In the US see http://www.marshall.com/ which seems to have a complete
catalogue on the net. There are others.
Bill Sloman

4669. High and low Frequence Antannas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F72D1D.17D@mailhost.oxford.net>
Source record: 103873
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

Where can i get information on different types of antannas, how to build them and how they work?

thanks

4670. Re: QRP 3-Bander from 10/89 QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: mulveyr@ll.aa2ys.ampr.org
Message-ID: <slrn4vdi3s.rt7.mulveyr@ll.aa2ys.ampr.org>
Source record: 103874

On Wed, 24 Jul 1996 15:45:22 -0700, Paul Knight <pknight@elec.ctl.etn.com> wrote:
>Hi, everyone! I was wondering if anyone had built up the "QRP 3-Bander"
>transceiver for 18-21-24 MHz, featured in the 10/89 issue of QST, as
>well as the ARRL Handbook and W1FB's "QRP Classics" book. I'm
>looking for a new construction project, as well as a way to get
>some WARC band coverage.
>
>Any suggestions/info/advice/flames regarding this rig are welcome.
>

Paul:

I don't know how intent you are on rolling your own, but you might
want to check out the Wilderness Radio Sierra. It's a
commercialized version of the Norcal Sierra. It uses plug-in band
modules for 160M to 10M. I believe the basic kit costs around $200.00,
and band modules are about $25.00 apiece. (With appropriate quantity
price breaks.)

Disclaimer: I'm a member of Norcal, and spend entirely too much
money buying WIlderness products, but I don't get any money from
either of them. :-)

- Rich

--
My mailer has the unfortunate tendency to bounce 10,000 copies of any
junk mail I receive back to the sender. Be warned.

4671. Modem Information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <31F72C8B.1AFD@mailhost.oxford.net>
Source record: 103875
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment

Does anyone have schematics, comonent lists, layouts of 14.4 kbps or 28.8 kbps modems? any make will do. I also need information on radio monems like how they work, detailed explanations, schematics and stuff like that. Where are some good places to find information like this on the 'net??

thanks

4672. Re: High and low Frequence Antannas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: rickets@earthlink.com
Message-ID: <4t87vv$ogb@bolivia.it.earthlink.net>
Source record: 103876
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

A Guy named Moe <skubik@mailhost.oxford.net> wrote:

>Where can i get information on different types of antannas, how to build
>them and how they work?

>thanks
The Antenna Book from ARRL. Available at amateur radio type stores.
Dave Rickmers speak you clear and nasal
rickets@earthlink.com for distance

4673. Re: CAtalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: rickets@earthlink.com
Message-ID: <4t886k$ogb@bolivia.it.earthlink.net>
Source record: 103877
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,ont.forsale,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

A Guy named Moe <skubik@mailhost.oxford.net> wrote:

>Can people tell me if there are any eletronicComponent retailers on the
>net and where are they and give me some addresses so I can get free
>catalogs for eletronic components

http://www.electrobase.com/index.htm
Dave Rickmers speak you clear and nasal
rickets@earthlink.com for distance

4674. Re: CAtalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: Don Huff <donh@vcd.hp.com>
Message-ID: <31F7C7F3.7F51@vcd.hp.com>
Source record: 103878
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,ont.forsale,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

A Guy named Moe wrote:
>
> Can people tell me if there are any eletronicComponent retailers on the
> net and where are they and give me some addresses so I can get free
> catalogs for eletronic components
Moe,

Do some legwork before posting dozens of posts. Try READING
MATERIAL first. Visit your local library or bookstore. Your many
questions reveal that you have not used readily available sources
of information.

73,
Don W6JL

4675. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: pacrimgolf@kuentos.guam.net
Message-ID: <4t7pi3$2dq@lehi.kuentos.guam.net>
Source record: 103879
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

jrouse@infi.net (John Rouse / Capital Gazette) wrote:

> This is certainly a good way for an attorney prohibited from advertising
>his services to get more free advertising than he could possibly
>imagine! I suspect, However, Chris could have meandered well into
>his sunset years without having to to endure this endless stream of
>utter twaddle.....

>73, John KA3DBN
>--
>John L. Rouse Packet: ka3dbn@ka3rfe.md.usa.noa
>Capital-Gazette Communications FAX: 301-464-7027
>jrouse@dc.infi.net PHONE: 301-262-3700 X200
>john.rouse@reporters.net 410-268-5000

Amen Brother. But I think those guys can advertise now, at least all
the ambulance chasers in California sure are paying for a lot of TV
time.

4676. Helical Filters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-25 00:00:00 UTC
From: firewevr@insync.net
Message-ID: <4t880n$9ii@synthemesc.insync.net>
Source record: 103880

Can anybody out there explain to me what a "helical filter"
is and how it works. This is a new one on me. Thanks.

Erikc

Religious fundamentalists are a plague sent by God to
punish us for our joys. -- me

4677. Re: Catalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: Jim <jstrohm@texas.net>
Message-ID: <4tb92r$v98@newsgate.sps.mot.com>
Source record: 103734
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

try these:

http://www.digikey.com
http://www.minicircuits.com
http://www.penstock.avnet.com
http://www.mot.com

4678. 455KHz 500Hz CW filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: peter.orban@nrc.ca
Message-ID: <peter.orban-2607960853290001@132.246.72.31>
Source record: 103735

A friend of mine is looking for the above filter for a Kenwood TS 450S AT ham radio. Are these filters expensive? (I have not received any quotes from supplyers yet.)
How are such filters implemented, are those quartz, ceramic or mechanical filters? Any chance to homebrew one?
Any comments welcomed!

Thanks, Peter
--
Peter Orban
National Research Council of Canada
peter.orban@nrc.ca

4679. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: sholmes@cais.com
Message-ID: <sholmes-2607962238100001@192.0.2.1>
Source record: 103736

In article <4tb7ba$36@excelsior.flash.net>, kmiller@flash.net (Kerry Miller) wrote:

> art2@usa.pipeline.com(Art) wrote:
>
> >For the life of me I can't understand why full fledged
> >hams insist on spelling "reciever" instead of "RECEIVER".
> >
> >73's de Art
> Art,
> I suspect it's because they remember the "I before E" part but forget
> the "except after C" part...
> Kerry

Nope. It's a deliberate attempt to rationalize the language by simplifying the rules. Twenty years from now, that's how *everyone* will spell it. Shoot, six munce ago I cudnt even SPELL 'enjineir', but now I are one! ;-)

--
Stephen R. Holmes | sholmes@cais.com | the usual disclaimers
TNS, Inc. | Add yourself to the | .....
Reston, VA USA | 411 white pages! | witty saying TBD

4680. CW PC Interface?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: Costas Spanos <spanos@eecs.berkeley.edu>
Message-ID: <31F95424.41C67EA6@eecs.berkeley.edu>
Source record: 103737

I am building the "easy CW interface" box from plans in the 1996 ARRL Handbook, using the PC board from F.A.R. circuits. I noticed that the AGC design is a bit different between the F.A.R. version and the Handbook version. I built the Handbook version (using the J-Fet) and it does not work very well.

Has anybody tried to build this project? Any comments?

thanks

Costas / KE6-SYN

4681. Re: Prototyping boards for SMD?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: Yvon Roy <rextel@sympatico.ca>
Message-ID: <31F989CE.1D1E@sympatico.ca>
Source record: 103738

Ian White, G3SEK wrote:
>
> Many potentially useful new ICs are only available in SMD "SO" outlines
> based on a 0.05-inch pin pitch. How do you work with these ICs on
> ordinary 0.1-inch prototyping boards?
>
> Has anybody seen such things as SMD to standard DIL adaptors for 8-pin
> and 16-pin SMD ICs? I'm thinking of something like a small PCB with
> tracks for 0.05-inch DIL SMDs, that would fan out to the standard
> 0.1-inch DIL pitch. Such adaptor boards could be either dropped onto a
> standard DIL header or wire-linked through to 0.1-inch tracks.
>
> I suppose the other alternative would be to glue the SMD straight onto a
> 0.1-inch DIL header and wire it up by hand.
>
> Are there any 0.1-inch prototyping stripboards like Veroboard/
> Vectorboard but with some provisions for 0.05-inch SMDs?
>
> And what about "SSO" devices using 0.025-inch pin spacing?
>
>
> 73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
> 'In Practice' columnist for RadCom (RSGB)
> Professionally:
> IFW Technical Services Clear technical English - world-wide.

Recently, I purchased these adaptors from Mouser Electronics in Texas
USA. http://www.mouser.com Here are the names of a few US manufacturers
of such devices: ARIES Electronics. Mill-Max. I have seen other names
that I dont recall. Mouser carries both manufacturers. Good luck.
Yvon Roy VE2AUC rextel@sympatico.ca

4682. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDv7MvG.4s6@netcom.com>
Source record: 103739
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

in <4tacv9$t2v@news02.deltanet.com>, John Lundgren wrote:
: Steve Work (slwork@netcom.com) wrote:
: : I am trying to build or obtain a device which can translate signals from
: : from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast band,
: : 100-104Mhz). This will be used in conjuction with an FM broadcast
: : receiver to demodulate FM signals which are in the 0-4Mhz range.

: First off, the 0 to 4 MHz band is AM, so if you upoconvert these signals
: to the 100 to 104 MHz range, you will need an AM receiver to listen to
: them. All the receivers that I've seen in that band are FM, so you may
: have an insurmountable problem.

Sounds like he's trying to get one of the multiplexed audio
distributions off of a satellite. These are a bunch of FM subcarriers.
Like the audio on a analog satellite channel, only with the video being
replaced by more audio.

My suggestion is to just hack a stereo FM broadcast receiver so that its
LO is in the 10 to 15 MHz range. Strip out the front end tuning, and
replace the ceramic bandpass filters (if you need a narrower one), use
an RF signal generator for the LO. Look for a capacitor tuned one with
lots of room in the cabinet. (I've had plenty of fun with a Scott 515
that I bought for $35 many years ago at a used stereo store.)

Before they went the paths of either digitial or cheap, FM tuners built
10-20 years ago are very hackable. These days, most FM receivers are
really car audio units in bigger boxes, with the real guts stuck away in
some horrible little tuner module.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

4683. Re: TV Frequinces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4tahn2$k06@dfw-ixnews8.ix.netcom.com>
Source record: 103740

In <31F7C68D.3725@vcd.hp.com> Don Huff <donh@vcd.hp.com> writes:
>
>A Guy named Moe wrote:
>>
>> How can I find out the frequences that TV stations are using?
>
>Moe,
>
> It would help if you would use a dictionary or spell checker
>on your posts. (RE: ANTANNA for antenna, FREQUINCES for frequencies,
>etc!).
>
> Look in any ARRL Handbook for all the information you bave
requested. ^^^^
> In there you will learn that each TV station has a picture carrier
>which is amplitude modulated (AM). In addition there is a sound
>carrier, which is frequency modulated (FM). Each channel occupies 6
MHz
>of assigned channel bandwidth.
>
> GL and 73,
>
> Don, W6JL
And what spell checker do you use, that includes the word bave?

People who live in glass houses should not throw stones.

Glenn Sparks

4684. Homemade Crossband Box

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: hntlykds@interserv.com
Message-ID: <N.072696.020736.22@interserv.com>
Source record: 103741

Good Day,

I am looking for plans for to build a mini crossbanding box to connect to HT's, or for a more permanent installation, a pair of MICOR Mobiles. Anyone out there have plans or ideas? Something simple or complex, either way, It's gonna be used for a Simplex Net out in Southern California. Any help is appappreciate
73's

--
Marc-Daniel A. Huntley, KF6ADG, Networking and Computer Consulting Inc.
I monitor 446.650- PL67 (Linked to 445.2875- PL123 KO6TD)
"Contriversial topics - Abortion, Gun control, and Coordination."
"Liars Figure, and Figures Lie"

4685. Re: schematics of a transverter 28 Mhz <-> 50 Mhz wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: norman <norsan@bright.net>
Message-ID: <4t93d7$5gr@cletus.bright.net>
Source record: 103814

TEN-TEC makes a nice 10 to 50 MC transverter kit. Cost is $100.
This might be better than trying to find all the right parts.
good luck

73, Norm N8RGR norsan@bright.net

4686. Re: CB radio crystal modification

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: jah@ois.com.au
Message-ID: <4t999d$s9d@news.mel.aone.net.au>
Source record: 103815

Tate Gordinier <jibeaux@cenornet.com> wrote:

>I have been going crazy trying to find any way to add or change
>frequencies in a Uniden Pro 510xl, if that is possible. Is it possible
>to do this by just using different crystals, or would using a different
>crystal mess up the PLL chip? (The PLL is a sm5124.) Thanks in advance
>for any help.

>Tate
>jibeaux@cenornet.com

This rig cannot be modified to work on other frequencies. The PLL chip
is of the new type that generates the CB frequencies directly -
Changing the 10.240 MHz crystal wont work either - too many internal
chip functions depend on it.
See Lou Franklins "CB PLL DATA BOOK" available from most good
electronic book stores or CB CITY INTERNATIONAL PO Box 31500 Phoenix
Arizona 85046 . See also his "UNDERSTANDING AND REPAIRING CB RADIOS"

Good luck!! John VK6JAH

--
John.A.Hassell

4687. Help SB-300 S meter/AGC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: lroland@teleport.com
Message-ID: <4t9h17$opn@nadine.teleport.com>
Source record: 103816

Thanks for reading..... I have and SB-300 with a problem in the AGC
circuit or S meter circuit. With AGC off I get little or no reading
in the S meter. Switching in the AGC in either fast or slow restores
the S meter but degrades signal quality. Any ideas? Radio works ok
otherwise, tubes test ok and voltages are in the ballpark. Thanks.
/John WB7SWB E-mail lroland@teleport.com
Packet WB7SWB@W0RLI

4688. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: jlundgre@delta1.deltanet.com
Message-ID: <4tacv9$t2v@news02.deltanet.com>
Source record: 103817
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

Steve Work (slwork@netcom.com) wrote:
: I am trying to build or obtain a device which can translate signals from
: from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast band,
: 100-104Mhz). This will be used in conjuction with an FM broadcast
: receiver to demodulate FM signals which are in the 0-4Mhz range. I've
: heard that such devices exist, but am unable to locate one. Does anyone
: know who sells something like this or plans on how to make one?

First off, the 0 to 4 MHz band is AM, so if you upoconvert these signals
to the 100 to 104 MHz range, you will need an AM receiver to listen to
them. All the receivers that I've seen in that band are FM, so you may
have an insurmountable problem.

: Or could you perhaps "hack" a device which modulates video for RF on
: channel 3 or 4 (60-70Mhz). Does anyone know any details on how this could
: be done?

You can make a RF front end that preamps the 0 to 4 MHz and then mises it
with a 100 MHz oscillator. But the 0 end of the band will be too close
to the osc and the receiver will be desensed if it gets too close to the
100 MHz osc output.

--
#===#
John Lundgren - Elec Tech - Info Tech Svcs.	jlundgre@
Rancho Santiago Community College District	deltanet.com
17th St at Bristol \ Santa Ana, CA 92706	http://www.rancho
My opinions are my own, and not my employer's.	.cc.ca.us
Most FAQs are available through Thomas Fine's WWW FAQ archive:
http://www.cis.ohio-state.edu:80/hypertext/faq/usenet/FAQ-List.html
"Babe Ruth struck out 1,330 times... keep on swinging."
says the lid on the jar of Laredo & Lefty's Picante Salsa
#======P=G=P==k=e=y==a=v=a=i=l=a=b=l=e==u=p=o=n==r=e=q=u=e=s=t======#

4689. Need tube Charts for Dyna Jet 606 Tube tester

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: cdreiling@aol.com
Message-ID: <4t9jvd$gmi@newsbf02.news.aol.com>
Source record: 103818

I have a Dyna Jet tube tester Model 606 but do not have any tube charts to test tubes. I need a chart or to know the settings for a few tubes.
Thanks,
Chris Dreiling
cdreiling@aol.com
Fresno,Ca

4690. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: miknight@wabash.net
Message-ID: <AE1E37AE966823D54@ppp03.wabash.net>
Source record: 103819
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

>First off, the 0 to 4 MHz band is AM, so if you upoconvert these signals
>to the 100 to 104 MHz range, you will need an AM receiver to listen to
>them. All the receivers that I've seen in that band are FM, so you may
>have an insurmountable problem.

You are forgetting about FM-Squared. That's a technology that puts narrowband FM audio subcarriers down in the 0-4 MHz range so that conventional receivers can't tune in the signals. Spacenet 3R has a couple of channels that use this method.

If you have a general-coverage radio receiver that has FM, hook it to the baseband output of your IRD with a 10 dB attenuator in line. You may be able to modify a TV sound IF board to tune in the 0-4 MHz range.

>You can make a RF front end that preamps the 0 to 4 MHz and then mises it
>with a 100 MHz oscillator. But the 0 end of the band will be too close
>to the osc and the receiver will be desensed if it gets too close to the
>100 MHz osc output.
>
I'd forget about the heterodyne approach too. It would be easier to hack a FM module from a TV than to rig up a mixer. The FM-squared channels have a pretty substantial CARRIER signal at 0 MHz. That would be a bear to try to filter out without affecting the low end of the band.

4691. Re: CAtalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: rickets@earthlink.com
Message-ID: <4tau9g$6gs@chile.it.earthlink.net>
Source record: 103820
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,ont.forsale,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

Don Huff <donh@vcd.hp.com> wrote:

>A Guy named Moe wrote:
>>
>> Can people tell me if there are any eletronicComponent retailers on the
>> net and where are they and give me some addresses so I can get free
>> catalogs for eletronic components
>Moe,

> Do some legwork before posting dozens of posts. Try READING
>MATERIAL first. Visit your local library or bookstore. Your many
>questions reveal that you have not used readily available sources
>of information.

> 73,
> Don W6JL
Chill, Don. If you can't say something nice...

Dave Rickmers speak you clear and nasal
rickets@earthlink.com for distance

4692. Re: High voltage transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: Dave Hand <dhand@microdes.com>
Message-ID: <31F8BA88.918@microdes.com>
Source record: 103821

Paul Beastall wrote:
>
> I'm trying to find a transformer suitable for a pair of 3cx800a7 triodes
> and in the UK I would have to have one made as a special.
>
> I understand that in the States there may be some off the shelf options
> (Peter Dahl or Avatar Magnetics?). Does anyone have any details or can
> they point me in the right direction?
>
> Thanks
>
> Paul Beastall, G1WBZ
> Ipswich, UK.

Peter Dahl Co has what you need and if you call or write will
provide a nice catalog....

Peter Dahl Co
5869 Waycross Ave.
El Passo Texas 79924
915 751 2300

Good luck !

Dave Hand Wb4hyp

4693. Re: High and low Frequence Antannas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: bwilson@newshost
Message-ID: <4tar39$ec@viking.mpr.ca>
Source record: 103822
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

A Guy named Moe (skubik@mailhost.oxford.net) wrote:
: Where can i get information on different types of antannas, how to build
: them and how they work?

Try the ARRL Handbook.

Bob.

4694. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: Steve Kittelsen <stevekit@worldnet.att.net>
Message-ID: <01bb7afa.0cd4b5a0$8e0446c7@stevekit>
Source record: 103823
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

> : I am trying to build or obtain a device which can translate
signals from
> : from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast
band,
> : 100-104Mhz). This will be used in conjuction with an FM
broadcast
> : receiver to demodulate FM signals which are in the 0-4Mhz range.
I've
> : heard that such devices exist, but am unable to locate one.
Does anyone
> : know who sells something like this or plans on how to make one?

First off, the signals are narrow or wideband FM modulated signals. The problem you might run into is that a FM receiver is wideband. But, when I tried the wideband signals were very good, and the narrow band signals might have some noise in them. You also need a receiver that has continues tuning, and not the wide digital step tuning of newer receivers.

You can build the whole converter using one chip, the NE 602. With only a few external components, you can upconvert the 0-5 MHz signal to 100-105 MHz. I can send you a copy of the schematic that I made, if anybody wants it. It is tested, and it works.

SK
--

* stevekit@worldnet.att.net
* steve_kittelsen@wxxi.pbs.org
* O P E N Y O U R M I N D ...
G**********A**********Y**********PRIDE********!

4695. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: kmiller@flash.net
Message-ID: <4tb7ba$36@excelsior.flash.net>
Source record: 103824

art2@usa.pipeline.com(Art) wrote:

>For the life of me I can't understand why full fledged
>hams insist on spelling "reciever" instead of "RECEIVER".
>
>73's de Art
Art,
I suspect it's because they remember the "I before E" part but forget
the "except after C" part...
Kerry

4696. Moe's trolling

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: timhynde@ix.netcom.com
Message-ID: <4tb7r1$1cg@dfw-ixnews8.ix.netcom.com>
Source record: 103825

Clifford Buttschardt <cbuttsch@slonet.org> writes:

>cut wire--put it up in the air--wow! Geez!!
>
>On Wed, 24 Jul 1996, A Guy named Moe wrote:
>>
>> I need the Formula for building antannas

Yea, I know, this is the same "Moe" who wanted plans to build an FM or
AM TRANSISTOR!

4697. add

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: goucher@gte.NET
Message-ID: <31F959C5.2D94@gte.net>
Source record: 103826

add me to the list

4698. Re: schematics of a transverter 28 Mhz <-> 50 Mhz wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: norman <norsan@bright.net>
Message-ID: <4t937v$5gr@cletus.bright.net>
Source record: 103827

TEN-TEC makes a nice 10 to 50 mc transverter kit. The kit
is only $100.

You might find this better than trying to find all the parts.

73 Norm N8RGR norsan@bright.net

4699. Re: Siliconix/MACom VMP-4

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960726153613.7116E-100000@spork.callamer.com>
Source record: 103828

Hi...yup, I remember the VMP-4! My junk box has a VMP-1 and a VN64. I continue to think I have a four around somewhere. Cliff K7RR

On 25 Jul 1996, JohnsonHE wrote:

> Siliconix used to make, (and MACom second sourced) a vertical MOS device
> known as the VMP-4. roughly 10 watt 28 volt transistor.
> They're obsolete now, and neither company is making them anymore. Anyone
> with one or a few that they'd like to turn into cash, E-mail
> JohnsonHE@AOL.com
> Mni Tnx
>
>

4700. wanted schematic for pro

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: jim.hammock@tclbbs.com
Message-ID: <1942484012-960725231600@tclbbs.com>
Source record: 103829

On 07-19-96 16:14, PETERW@DYSON.BRISNET.ORG was talking to ALL
about wanted schematic for pro:

PE>From: peterw@dyson.BRisnet.ORG.AU (Peter L. Williamson)
PE>Newsgroups: rec.radio.amateur.homebrew
PE>Subject: wanted schematic for pro-2023 scanner
PE>Organization: ucsd usenet gateway

PE>Can anybody help me with a schematic for the Tandy (Radio Shack) scanne
PE>model pro-2023?
PE>Tnx. Peter VK4AWP.

If the model is the PRO-23 you can order the service manual from Radio Shack
using RSU number 10823375. You can get a parts lis faxed to you by calling
1-800-323-6586, following the directions and entering 21375 for the docuent
number.

Hope it helps!

Jim KI0DN
---
* PW * Old days: Wine, Women, Song. Now days: Coffee, Computers,

4701. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: grohe@galaxy.nsc.com
Message-ID: <31f88580.1365215@139.187.128.43>
Source record: 103830
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

On 25 Jul 1996 16:24:01 -0700,
in the newsgroup sci.electronics.misc,
slwork@netcom.com (Steve Work)
thoughtfully posted:

>I am trying to build or obtain a device which can translate signals from
>from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast band,
>100-104Mhz). This will be used in conjuction with an FM broadcast
>receiver to demodulate FM signals which are in the 0-4Mhz range. I've
>heard that such devices exist, but am unable to locate one. Does anyone
>know who sells something like this or plans on how to make one?

>Or could you perhaps "hack" a device which modulates video for RF on
>channel 3 or 4 (60-70Mhz). Does anyone know any details on how this could
>be done?

>I tried hooking up an RF modulator to the baseband video output and
>then tuned it with a TV-Band radio. Didn't have much luck with any FM2
>stuff because the bandwidth of the radio was too great, but it did
>work - I could tune the audio subcarriers quite easily.

Playing with satellite TV, eh!.... ;^)

It's been a while since I have played with this stuff. :^)

Look into the Phillips NE602 LO/Mixer chip. Very simple and works
well.

http://www.semiconductors.philips.com/ps/acrobat/1144.pdf
http://www.semiconductors.philips.com/ps/acrobat/8065.pdf

Set the LC oscillator around 100MHz (or you can use a crystal).
That way, 6.8 MHz ends up at 106.8MHz, 4.75 is at 104.8, etc.

Be sure to use a high-pass filter. Don't let too much video get
into it!

For the very narrow-band signals, you may want to look into
converting the signals up to the 30MHz band using a scanner to
receive it. Any old cheap-o programmable would work. The
bandwidth is narrower and the channel steps are ideal.

If you are really into this, get a communications receiver
capable of SSB/CW. There are a lot more signals up there than the
FM ones on the video carriers! (didja' ever wonder why there are
so many "blank or gray" channels?). There are hundreds of
narrow-band SSB signals spread around on those "blank" channels.

Just stick the video output directly into the antenna jack of the receiver and tune from 100KHz to 10MHz with the BFO on (you may need to turn down the gain control or switch in the antenna attenuator).

A list of these signals is available at:

http://itre.ncsu.edu/misc/satchart

Some other links are available at:

http://itre.ncsu.edu/misc/sat.html

Good Luck!

Cheers,
Paul Grohe

Paul Grohe National Semiconductor Corp.
Sr. Electronics Technician 2900 Semiconductor Drive
AMPS New Products Eng Group Mail Stop C2693
Mailto:grohe@galaxy.nsc.com Santa Clara, CA. 95052-8090 USA
(408) 721-7389 Tel (408) 721-2513 Fax
Usenet Disclaimer: Any opinions expressed are mine, not NSC's

http://www.national.com

For technical assistance, literature, or samples call:
NORTH AMERICA EUROPE
(800) 272-9959 +49 (0) 180-532 78 32
mailto:support@tevm2.nsc.com mailto:europe.support@nsc.com

4702. Marking of diodes

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <habi.838370647@bauv111>
Source record: 103831
Cross-posted to: sci.electronics.components,rec.radio.amateur.misc,rec.radio.amateur.homebrew

I have a lot of diodes which look like 1N4148's.
The only marking are 2 green rings.
What is this diode ?
What is this marking code ?
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

4703. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-26 00:00:00 UTC
From: jms@col.hp.com
Message-ID: <4tah5s$7oe@nonews.col.hp.com>
Source record: 103832

Art (art2@usa.pipeline.com) wrote:
: For the life of me I can't understand why full fledged
: hams insist on spelling "reciever" instead of "RECEIVER".
:
: 73's de Art

I'm with you, Art. But may I point out that '73' means 'best regards'
That make the above 'best regards's'

73, de Mike

4704. Homebrew 20M SSB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <4tbn8d$r9u@opal.southwind.net>
Source record: 103742

Hello,
I am a high school student looking at the possiblity of designing and building a 20M SSB/CW tranceiver as a year long project this coming fall. I would appriciate any help with schematics and ideas from anyone. As of yet, the idea isn't final and therefore, the design specs aren't set into stone. Preliminary thoughts would lend me to think of a power out of about 20watts, full coverage with a PLL, multiple conversion reciever, adjustable audio/IF filters, possibly digital controls, etc. Much of the design can be pieced together from ARRL literature around the shack but any personal experiences are welcome. Thanks in advance.

73's de Zack, AA0XQ

zclobes@southwind.net
http://www2.southwind.net/~zclobes/zackc.html

4705. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-2707960755480001@d153.w.interaccess.com>
Source record: 103743

In article <4tah5s$7oe@nonews.col.hp.com>, jms@col.hp.com (Mike Stansberry) wrote:

>: 73's de Art

> I'm with you, Art. But may I point out that '73' means 'best regards'
> That make the above 'best regards's'
>
> 73, de Mike

Mike -

The apostrophe is being used as it is after the plural of an acronym, such as TV's, CD's, etc., where it is appropriate.

Dave

--
Dave Moorman Be big, don't belittle!
Downers Grove
Illinois, USA
http://homepage.interaccess.com/~dmoorman/DavesPage.html

4706. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkDv7F46.v7@netcom.com>
Source record: 103744
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

Mike Knight (miknight@wabash.net) wrote:

: I'd forget about the heterodyne approach too. It would be easier to hack a
: FM module from a TV than to rig up a mixer. The FM-squared channels have a
: pretty substantial CARRIER signal at 0 MHz. That would be a bear to try to
: filter out without affecting the low end of the band.

Can someone explain this? How can there be a carrier at 0Mhz, I thought
that the lowest frequency carrrier on fm-squared was like 150Khz or so.
Besides, if there were a carrier at 0, wouldn't the modulator just shift
it up to 100Mhz. If you tuned somewhere else than exactly 100Mhz (i.e.
102-103) on the FM receiver then you would block out the carrier at zero.

4707. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: slwork@netcom.com
Message-ID: <slworkDv7FB2.117@netcom.com>
Source record: 103745
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

Mike Knight (miknight@wabash.net) wrote:

: You are forgetting about FM-Squared. That's a technology that puts
: narrowband FM audio subcarriers down in the 0-4 MHz range so that
: conventional receivers can't tune in the signals. Spacenet 3R has a couple
: of channels that use this method.

: If you have a general-coverage radio receiver that has FM, hook it to the
: baseband output of your IRD with a 10 dB attenuator in line. You may be
: able to modify a TV sound IF board to tune in the 0-4 MHz range.

How do you connect the baseband output of the IRD to the general coverage radio? Obviously the level from the IRD is a volt or so, and the receiver wants microvolts. Also, there is the issue of interference from such things as AM broadcast stations. Does anyone have suggestions for type of cable, attenuation method, etc. which can be used to connect the two together?

4708. WTB dead hf amp

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: kk5dr@io.com
Message-ID: <4tdb2h$rju@anarchy.io.com>
Source record: 103746

I'm looking for a dead or broken HF amp, RF deck, of the 8877 or 4CX1500B type(with or W/O tubes)
I don't need the power supply, but I must have a complete RF deck(no parts missing).
I'll give more for a unit with a good tube.
It must be cheap, apperance is unimportant(it can be very ugly).

Matthew A. Erickson
Paige,TX. (consult Rand Mcnally)
INTERNET ADDRESS; kk5dr@io.com

"EVERYONE, is entitled to their OWN, opinion."

4709. Re: High and low Frequence Antannas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: James Brooks <jbrooks@interlog.com>
Message-ID: <31FA79CA.955@interlog.com>
Source record: 103747
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

Bob Wilson wrote:
>
>> A Guy named Moe (skubik@mailhost.oxford.net) wrote:
>> : Where can i get information on different types of antannas, how to
>>build
>> : them and how they work?
>
> Try the ARRL Handbook.
>
> Bob.

He really should learn to use a search engine.

Patrick Rea

4710. Stuff for sale or Trade.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: cw thomas <cwthomas@pop.erols.com>
Message-ID: <31FAA0DD.1EDE@pop.erols.com>
Source record: 103748

HI;

Thanks for reading this.

I have the following stuff for sale or trade. I'm interested in mackine
tools dial meters calipers milling stuff or lathe accessories OR
blacksmithing stuff not to mention electronics stuff.If it says it works,
it works and I'll replace or refund your money at my option should you
have any problems with it. However, please don't buy something and
then decide you don't need or want it and expect me to take it
back. Also If something says 'cond unknown' that means I don't
know if it works or not. and I won't guarantee it. Its as is.
If the price says quan for x dollars that means I will not sell them
in single quantities. (I'm lazy).
Alot of these boards are pulls from a big computer place out here
that went belly up. From the stuff I've pulled out and tested,
it appears that they went out of business because they were
throwing away good cards.

CV89/Ura8a teletype decoder covers shift from 10 to 1000 hz.
freq from 595 to 1785 or external tone. in grey rack mount case
5x22x16 20 lbs works no docs 50.00

Ikegami Monochrome camera works has no lens comes with pwr supply.25.00

Giger counter mfg by victoreen instruments. runs off d cells. yellow
color weighs about a pound works.....30.00

Micronics 486 system board Eisa 3 system board 8 slot,accepts
80486sx,dx,dx2 comes with Cache srams, DOcs and CPU
Condition Unknown.....35.00

80486 sys board 8 slot comes w/cache srams,No docs/CPU Cond. Unk..20.00

80386-33 Mhz mother board works with docs..... 35.00

80386-40 Mhz nother board works with Docs..... 40.00

1.2 Meg Floppy Works..... 15.00
Toshiba P321sl printer W/ DOCs. works.....40.00

HP laserjet Network Card Cond. Unk. 15.00

4 - 1 meg 32pin simms 70ns speed works..... 40.00/four

PCMCIA Network Card comes w/ docs, 1.44 meg disk w/ software
and adapter cable Cond. Unk.....25.00

1X CD ROM drive Works, with cable and controller 20.00

Hayes external 2400 baud modem..works.....15.00

Assorted PCI and vesa and at bus bus VGA cards all work some are
diamond stealth cards all have at least 1 Meg of Memory
all work.....45.00 Ea.

Assorted SCSI Cards No docs No cables. Cond. Unk.....5/20.00

4711. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: tiemann@spot.Colorado.EDU
Message-ID: <4tds3d$r1m@peabody.colorado.edu>
Source record: 103749

From dmoorman@interaccess.com Sat Jul 27 13:29:20 MDT 1996

In article <4tah5s$7oe@nonews.col.hp.com>, jms@col.hp.com (Mike
Stansberry) wrote:

>: 73's de Art

> But may I point out that '73' means 'best regards'
> That make the above 'best regards's'
>
> 73, de Mike

:The apostrophe is being used as it is after the plural of an acronym,
:such as TV's, CD's, etc., where it is appropriate.

:Dave

Forgive me for pointing out the obvious, but TV is the acronym for
TeleVision, CD is the acronym for Compact Disc, and 73 is the acronym for
71f2c87a 324dc87abff, which though not English is Universal Intergalactian
for "best regards," in the hexadecimal transliteration.

Similarly, 88 stands for 89ab3e41 8222ee1aa, "hugs and kisses," and
accordingly 88's is therefore entirely correct and appropriate. More
people should send the CORRECT forms over the airwaves on CW: "73's" not
just "73," but they don't stress the importance of the apostrophe in any
code course I've seen, so essentially noone does it on the air.

But YOU can make a difference!

Bruce
N6URH

4712. Compact UHF Repeaters For Sale

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <31fa7b73.412612398@nntp.ix.netcom.com>
Source record: 103750
Cross-posted to: rec.radio.amateur.equipment,rec.radio,amateur.misc,rec.radio.amateur.homebrew

I have a limited number of EF Johnson Fleetcom II UHF rigs for sale.

These are easily converted to repeaters. I can provide the unit 2 ways.

As-Is - $50.00 + $10.00 s&h You do all of the conversion, alignment, recrystaling, etc. I will provide instructions for the conversion & a copy of service manual.

Ready-To-Go Repeater $300.00 + $10.00 s&h Fleetcom II converted to repeater use, crystaled to your freqs, tuned and aligned, simple controler w/id. You still need to provide a duplexer, and antenna. w/manual

These units are all pulled from service and tested & aligned on 468mhz.

I also have a limited number of service manuals for older commercial equipment. E-Mial your needs and I'll see what I can do.

Other Services available: (All prices + s&h)

Reprogramming of commercial equipment to Amatuer freqs - $35.00
Equipment Repair - $60.00/hr + parts (1/2 hr min, estimate if repair will take more than 2 hr.)
Custom Cables
'Most anything else your rig might need.

E-mail your needs to:
kproctor@ix.netcom.com

Kevin B. Proctor N0OAS/AAR8GF

4713. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: hansen@ee.ucla.edu
Message-ID: <Dv82vE.Apu@seas.ucla.edu>
Source record: 103751
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Will Flor (willf@rrgroup.com) wrote:
: > Wrong. There's a hobby exclusion in part 15. (At least as of the
: > October 1991 copy I have on my desk.)

My October 1993 CFR has the same exclusion in 15.23. I retract my
earlier statement concerning hombrew Part 15 transmitters.

Chris Hansen, KQ6DW

4714. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: george.tamayo@infosoftpub.com
Message-ID: <02832996@infosoftpub.com>
Source record: 103752

The apostrophe is ok....but not for the reason stated below....the apostrophe
is appropriate to indicate omitted letters..... for example 73's ...I guess
you couldsay that 'three' or 'hree' are replaced by the apostrophe as an
abbreviation..another example plug 'n' pray..... 'a' and 'd' are replaced
by the apostrophes.However, many stores are guilty of putting the apostrophe
in a plural and this *is* incorrect.... cat's $1 tool's
$2 they incorrectly make thesewords possessive.
D(>In article <4tah5s$7oe@nonews.col.hp.com>, jms@col.hp.com (Mike
D(>Stansberry) wrote:
D(>
D(>>: 73's de Art
D(>
D(>> I'm with you, Art. But may I point out that '73' means 'best regards'
D(>> That make the above 'best regards's'
D(>>
D(>> 73, de Mike
D(>
D(>Mike -
D(>
D(>The apostrophe is being used as it is after the plural of an acronym, such
D(>as TV's, CD's, etc., where it is appropriate.
D(>
D(>Dave
D(>
D(>--
D(>Dave Moorman Be big, don't belittle!
D(>Downers Grove
D(>Illinois, USA
D(>http://homepage.interaccess.com/~dmoorman/DavesPage.html
D(>
D(>
***
George M. Tamayo - WD6EJO
Baywatch is the de-evolution of Charlie's Angels
---
* PowerAccess 1.10 That's not line noise--my modem's speaking in tongues!

4715. Amp Parts FS:

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: kj4uo@aol.com
Message-ID: <4teob1$bd7@newsbf02.news.aol.com>
Source record: 103753

Hi,

I have the following items up for Best Offer:

1: Two sockets for the 4CX250's or 4CX150's
These were removed from a FM broacast Transmitter
which were manufactured by Gates/Harris. This
Xmitter was removed from service about six months
ago.

2: Two 4CX150's which were used in the above. The
Xmitter was ran at 200 watts and the tubes were
replaced ever 3 months.

If interested, sent e-mail to KJ4UO@AOL.COM

Thanks!

4716. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: Steve Kittelsen <stevekit@worldnet.att.net>
Message-ID: <01bb7bcd$fe734560$a20b74cf@stevekit>
Source record: 103754
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

When the input signal to the converter is 0 MHz, the output is the
same frequency as the oscillator.
This is a nice way to check and set the local oscillator of the
upconverter.
Surely, the lowest usable input signal is about 150 Khz or so.

SK
--

* stevekit@worldnet.att.net
* steve_kittelsen@wxxi.pbs.org
* O P E N Y O U R M I N D ...
G**********A********************Y***************PRIDE********!

Steve Work <slwork@netcom.com> wrote in article
<slworkDv7F46.v7@netcom.com>...
> Mike Knight (miknight@wabash.net) wrote:
>
> : I'd forget about the heterodyne approach too. It would be easier
to hack a
> : FM module from a TV than to rig up a mixer. The FM-squared
channels have a
> : pretty substantial CARRIER signal at 0 MHz. That would be a bear
to try to
> : filter out without affecting the low end of the band.
>
> Can someone explain this? How can there be a carrier at 0Mhz, I
thought
> that the lowest frequency carrrier on fm-squared was like 150Khz or
so.
> Besides, if there were a carrier at 0, wouldn't the modulator just
shift
> it up to 100Mhz. If you tuned somewhere else than exactly 100Mhz
(i.e.
> 102-103) on the FM receiver then you would block out the carrier at
zero.
>
>

4717. Re: QRP 3-Bander from 10/89 QST

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: n8tt@tir.com
Message-ID: <4tdaau$fs0@ramp2.tir.com>
Source record: 103755

I second the idea of building the Sierra! It does require some
experience to build. The result is a radio that works and has
the few features one needs - small, multi-band, RIT when you want it,
good bandpass filter, ...

I added the frequency counter/keyer kit - it works very well.

Enjoy. N8TT

4718. Re: CAtalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: Mark <kb9khm@expert.cc.purdue.edu>
Message-ID: <31FA3440.7221@expert.cc.purdue.edu>
Source record: 103756
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,ont.forsale,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

> >A Guy named Moe wrote:
>
> > Do some legwork before posting dozens of posts. Try READING
> >MATERIAL first. Visit your local library or bookstore. Your many
> >questions reveal that you have not used readily available sources
> >of information.
>
> > Don W6JL
> Chill, Don. If you can't say something nice...

I must say I agree with Don. I've been reading Moe's posts for a week or more now and I'm beginning to wonder:

If he had the infomation he's look for . . . would he know what to do with it?

Mark <KB9KHM>

4719. Re: CAtalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: mzenier@netcom.com
Message-ID: <mzenierDv7MvK.4tp@netcom.com>
Source record: 103757
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,ont.forsale,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

in <4tau9g$6gs@chile.it.earthlink.net>, rickets@earthlink.com wrote:
: Don Huff <donh@vcd.hp.com> wrote:
: >A Guy named Moe wrote:
: >> Can people tell me if there are any eletronicComponent retailers on the
: >> net and where are they and give me some addresses so I can get free
: >> catalogs for eletronic components
: > Do some legwork before posting dozens of posts. Try READING
: >MATERIAL first. Visit your local library or bookstore. Your many
: >questions reveal that you have not used readily available sources
: >of information.

: Chill, Don. If you can't say something nice...

The kid (Shawn/Moe) has been pumping out tons of this stuff. (I counted 32 in the dozen or so electronics groups I read, in the last 6 days). Usually by spamming the same message to a bunch of newsgroups. They're all simple naive stuff, better answered by looking in a couple of magazines or books, or in this case a quick trip to the Yahoo web site.

Mark Zenier mzenier@eskimo.com mzenier@netcom.com

4720. Re: CAtalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: David Woolley <david@djwhome.demon.co.uk>
Message-ID: <Dv7xz7.6sB@djwhome.demon.co.uk>
Source record: 103758
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,alt.comp.hardware.homebuilt

In article <4t7i9q$l82@wn1.sci.kun.nl>, Bill Sloman <sloman@sci.kun.nl> wrote:
>In the UK and most of continental Europe, see Premier Farnell at
>http://www.farnell.co.uk/components/compindex.html - you can ask
>for their very comprehensive paper catalogue

As of this morning (UK time, Saturday) Maplin Electronic supplies have a
web site under construction at http://www.maplin.co.uk/

It's still a placeholder at the moment, but, as they run an ancient online
stock enquiry and order system, I suspect they may well do at least as
much on the web.

[Dropped ont.forsale immediately - clearly off topic in this branch.
Dropping the following in followups:
rec.radio.amateur.antenna - sibling
rec.radio.amateur.equipment - sibling
sci.electronics.equipment - sibling
Added alt.comp.hardware.homebuilt - Maplin and Farnell are often quoted there
Corrected spurious , in Newsgroups line - PRR]
--
David Woolley, London, England david@djwhome.demon.co.uk

4721. Re: Digital Microwave Radio - 1200bps stinks!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul27.195722.1367@ke4zv.atl.ga.us>
Source record: 103759

In article <4t5ho8$t1f@chaos.kulnet.kuleuven.ac.be> Peter.Delmotte@mech.kuleuven.ac.be (Peter Delmotte) writes:
>In article <199607232259047 0432@zetnet.co.uk>, frank.dinger@zetnet.co.uk
>says...
>>
>:Gary ,Could you please educate me . Having read an article in QST on
>:'ready for 9600Baud'FM radios ,I understood that all the
>:Yaesu-Kenwood-Icom-etc VHF/UHF radios, ready for 9600Baud, had a
>:separate TNC output port which in fact inputs the TNC output directly
>:to the varactor circuit ,thus bypassing the '300-3000Hz conditioned
>:mike amp '. This is because the 9600Baud signal audio spectrum runs
>:from very low to approx 7200Hz.(?)
>:I can't imagine that the 9600Baud connection on some rigs is a fake,
>:although some rigs appear to have a lower Bit Error Rate (BER) than others.
>:Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
>
>Even with an input directly to the varactor circuit, there still is
>a problem: the PLL. It doesn't do to much to the higher frequencies,
>but the lower ones (e.g. below 300Hz) are filtered out by the PLL, trying
>to keep the frequency "right". Only a modulator _outside_ the PLL loop
>can give you a flat frequency response down to DC. (I admit, you don't
>need DC, but the lower you get, the better.) In my opinion, the best
>9600 radios are multi-mode rigs with a fixed-frequency modulator (no PLL!),
>fed into a mixer.
>
>Peter

That's exactly right, Peter. Unfortunately, most of the few rigs
which do modulation at IF are multimodes whose receive filters
are too narrow to pass 9600 baud without unacceptable phase distortion.
(Most filters are very phase non-linear near the passband edges, so
you need a wider filter than the occupied bandwidth to avoid introducing
this distortion.)

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4722. Earn $10,000+\month Working At Home!!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: logon@my.bbs
Message-ID: <4te2r6$p67@ns1.autonet.net>
Source record: 103760
Cross-posted to: rec.pyrotechnics,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,rec.radio.cb

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///////// your sponsor's FCI ID # is SH1885969 \\\\\\\

4723. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: "John B. Stephensen" <john.stephensen@isocor.com>
Message-ID: <31F993CA.22C@isocor.com>
Source record: 103761
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

James S. Kaplan wrote:
>
> ARRL lawyer to sue member
>
> The following is a copy of a message I received today from
> ARRL General Counsel Christopher D. Imlay N3AKD:
>
> To: James S. Kaplan, KG7FU
> Copies: Mary Lou Brown, NM7N
> Terry Baun
> John Poray
> Date: July 16, 1996
> Re: Your article, SBE Chapter 124 Newsletter, July, 1996
> **********
>
> Jim, I have just finished reading your article in the July,
> 1996 Water Cooled Newsletter, page 6. In it, you argue that two of
> my clients, the American Radio Relay League, Inc. and the Society
> of Broadcast Engineers, Inc. should cooperate in certain government
> relations projects, specifically spectrum protection. You note that
> I serve as the General Counsel for both organizations. You then
> jump from that argument to the following, which I quote:
>
> If Mr. Imlay can't resolve HIS OWN conflicts of interest,
> perhaps both ARRL and SBE should be seeking more
> effective counsel. No offense Chris, but we have work to
> do. We should not only be sending a message to the FCC
> and Congress, but to other radio industries.
>
> (emphasis in original)
>
> It is not useful for me to educate you on the subject of your
> article to correct the errors in it, and I do not intend to do so.
> What I do intend, however, is for you to print a retraction, in
> unambiguous terms, in a form acceptable to me, and to furnish to
> me, in writing, an assurance that such will be printed in the next
> Chapter Newsletter for Chapter 124. Failing that, I am going to sue
> you in the District of Columbia for libel.
>
> I have no intention of allowing you to falsely allege that I
> have a conflict of interest in representing two of my best clients,
> especially in an SBE publication. You are not entitled to damage my

> reputation as a lawyer, which you have done in your article, or to
> infer (without any basis at all) that I have violated the canons of
> ethics governing attorneys, by which I govern my actions.
>
> I will await your response.
>
> Chris Imlay, N3AKD
>
> And here is my reply:
>
> Dear Mr. Imlay:
>
> Thank you for reading my column in the SBE Chapter 124 Newsletter
> "Water Cooled".
>
> I will not be giving you a retraction for any of my statements
> published in the July 1996 issue as you have requested. My statements
> are my personal opinions and views. I do apologize if you feel you
> have been hurt or damaged by my statements. My intent is to spur
> thought and action, not to personally attack. If your actions require
> others to think or act, don't you think they have the right to be
> informed? I believe my statements to be true and have been given
> no reason to retract them. My statements, by the way, are my own
> and don't necessarily reflect the views or opinions of Chapter 124,
> it's officers or members.
>
> I am a member in good standing of both groups and do many hours of
> unpaid work for the benefit of both groups and their members. I take
> personal offense at the threat of lawsuit by their counsel. It is
> unprofessional and you are certainly coming close to conflict with
> your fiduciary duty to both groups by proposing to sue a member. Perhaps
> it is you who owe me, and the Society of Broadcast Engineers and the
> American Radio Relay League an explanation for your actions and your
> lack of action in certain critical spectrum protection matters.
>
> After much discussion with SBE and ARRL BOD persons and members I have
> decided that the best way to deal with this matter is to offer you the
> chance to refute my statements or rebut, in your own words, in my column
> for publication in the next issue. In other words, please give yourself
> the chance to "educate me on the subject of my article to correct the
> errors in it".
>
> I know you'll also agree that, if you choose to pursue litigation, the
> proper forum for legal action would be an Oregon court as the column was
> written and published here.
>
> Sincerely,
>
> James S. Kaplan KG7FU
> Member SBE

> Member ARRL
> kg7fu@combined.com
> http://users.aol.com/kg7fu/home.htm
> KG7FU@N7DXT.#EUGEN.OR.USA.NOAM

James,

I don't see a conflict of interest here. Many lawyers represent competing companies. In fact, you generally seek a lawyer with experience in your industry.

The lawyer can never divulge information about one client to another, so he can't recommend actions to either about the other unless one client asks him to talk to the other. There is no conflict of interest unless one of his clients decides to take legal action against another and asks his advice. At that point, most lawyers tell both of their clients to hire another lawyer to handle that legal action.

Conflict of interest means that he is breaching confidentiality or using knowledge of one client to benefit the other. Just the suspicion of this can cause his clients to leave. Proof gets him disbarred. No wonder he is pissed off.

73,

John

4724. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: Steve Kittelsen <stevekit@worldnet.att.net>
Message-ID: <01bb7c0d$50a48940$df0b74cf@stevekit>
Source record: 103762
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

> Look into the Phillips NE602 LO/Mixer chip. Very simple and works
> well.

You can find a working schematics of the circuit at
http://home.eznet.net/redline/steve/

SK
* stevekit@worldnet.att.net
* steve_kittelsen@wxxi.pbs.org
* O P E N Y O U R M I N D ...
G**********A**********Y**********PRIDE********!

4725. TS930/940 Final Amp PCB

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-27 00:00:00 UTC
From: ak4i@worldnet.att.net
Message-ID: <4tcsfn$n4m@mtinsc01-mgt.ops.worldnet.att.net>
Source record: 103763

Has anyone had much trouble with your TS930 or 940 blowing the two
MRF485 driver transistors? The circuit boards are the same between
the two radios.
Kenwood placed a 19.1 volt zenor diode (D5) in the base circuit of the
two drivers that should run no higher than .7vdc. Can't figure out
its true purpose. Any information is appreciated.

4726. FS: 4cx1000a + socket

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: k9uwa@cris.com
Message-ID: <4tf14f$plj@herald.concentric.net>
Source record: 103764

For Sale 4cx1000a tube and Eimac Y-149a socket Tube is tested and
works fine....full output!! 1.6 KW make offer
de JOHN K9UWA

4727. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: ptracy@aol.com
Message-ID: <4tfkmo$l0j@newsbf02.news.aol.com>
Source record: 103765

In article <4t8quj$k9f@news2.h1.usa.pipeline.com>,
art2@usa.pipeline.com(Art) writes:

>For the life of me I can't understand why full fledged
>hams insist on spelling "reciever" instead of "RECEIVER".
>

"I" before "E", except after "C", or when sounding like "A" in neighbor or
weigh. That how I remember it. Takes too many brain cells I guess.

KE1C

4728. strange 10m converted CB SSB RF problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: kenmccoy@aol.com
Message-ID: <4tg356$pp0@newsbf02.news.aol.com>
Source record: 103766

I recently picked up a Cobra SSB CB converted to 10m by HyStar, and I'm having trouble with RF output on the sidebands (AM is fine). When I turn up the power mic, I get output only when I speak. Receive is fine.

Is this normal for SSB? Shouldn't there be some kind of carrier to send unmodulated power to the antenna? I'm thinking the SSB filter circuitry is somehow not exactly tuned for 10m, thus making the power mic necessary?

I had a local QSO (4 miles) on SSB with a signal report of S-5 and the power mic turned up. I know the rig has 4W AM output, but I thought 25W was standard on SSB.

Anyone have any ideas?

73 de KF4BQF Ken
kmccoy@stetson.edu

4729. RADIO AMATEUR CALLBOOK

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: Juan Flores <j.flores@codetel.net.do>
Message-ID: <31FBC00E.2C24@codetel.net.do>
Source record: 103767
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

Would somebody please email me the snail mail address of the Radio
Amateur Callbook.

Thank you.

Juan Flores
j.flores@codetel.net.do

4730. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: Mark <mark@tetherless.net>
Message-ID: <4tgsk5$d8q@gorgor.pa.tetherless.com>
Source record: 103768
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Will Flor <willf@rrgroup.com> wrote:
>Mark wrote:
>> teazes@gat.com (Stewart Teaze) wrote:
>> >The only REAL Part 15 argument that could work against your link, would
>> >be that it would be BYPASSING a viable commercial means of communications;
>> >the telephone. However, if you kept a web page that was up 24hrs/day,
>> >you can argue that it is not reasonable to keep a telephone link
>> >operational 24hrs/day, and so you would not be bypassing a commercial
>> >system.
>> If you are operating under Part 15, you neither have to worry about bypassing
>> the telepone circuits or content. There is no FCC/PUC ruling regarding this,
>> if there were, a lot of wireless service providers (in licensed and
>> unlicensed spectrum) would be out of business.
>
>Definitely true; however, the original poster was discussing
>homebrewing components, which is incompatible with legal
>operation under Part 15 (unless you're willing to fork over
>Big Buck$$ to have your homebrew design type-certified by the
>FCC.)
>
>73 de KB9JTT

Well, since you obviously decided to omit the authors of the various posts, you make it very hard to understand. I am responsible for that next-to-last paragraph, and as the poster before me brought up Part 15 and some non-existant regulation about "bypass", I was merely clarifying the point.

There are many in these newsgroups that fail (or just won't) see the difference between Amateur (Part 97) and Non-Amateur (Part 15) uses in the upper UHF 900 and 2400 MHz spectrum. This tends to confuse the poster - many of which (especially in the rec.radio.amateur.digital group) are not amateurs, but professionals just looking for information.

Their needs may be better served in the comp.std.wireless group, but for some reason, here is where they end up, having a number of people with their "you can't do that" messages quoting (and mis-quoting) Part 97 even though the poster had no reference or intention of using the Amateur bands in the beginning (or those that don't even bother to read the header, and the poster was operating in another regulatory environment to begin with).

Mark Oppenheim

4731. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: Fred Walker <fwalker@internetmci.com>
Message-ID: <31FC2BC7.964@internetmci.com>
Source record: 103769
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

Steve Kittelsen wrote:
>
> > : I am trying to build or obtain a device which can translate
> signals from
> > : from the 0-4Mhz band up by 100Mhz (which is in the FM broadcast
> band,
> > : 100-104Mhz). This will be used in conjuction with an FM
> broadcast
> > : receiver to demodulate FM signals which are in the 0-4Mhz range.
> I've
> > : heard that such devices exist, but am unable to locate one.
> Does anyone
> > : know who sells something like this or plans on how to make one?
>
> First off, the signals are narrow or wideband FM modulated signals.
> The problem you might run into is that a FM receiver is wideband.
> But, when I tried the wideband signals were very good, and the
> narrow band signals might have some noise in them. You also need a
> receiver that has continues tuning, and not the wide digital step
> tuning of newer receivers.
>
> You can build the whole converter using one chip, the NE 602. With
> only a few external components, you can upconvert the 0-5 MHz signal
> to 100-105 MHz. I can send you a copy of the schematic that I made,
> if anybody wants it. It is tested, and it works.
>
> SK
> --
>
> * stevekit@worldnet.att.net
> * steve_kittelsen@wxxi.pbs.org
> * O P E N Y O U R M I N D ...
> G**********A**********Y**********PRIDE********!
please send me a copy of the converter to:

Fred Walker
1023 edison
allen tx 75002
or e-mail fwalker@internetmci.com

4732. Re: Formula

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <31fbfd0f.511342790@nntp.ix.netcom.com>
Source record: 103770

On Sun, 28 Jul 1996 11:27:50 -0700, emeb@indirect.com (Eric M.
Brombaugh) wrote:

>In article <31F5CBBB.851@mailhost.oxford.net>, A Guy named Moe
><skubik@mailhost.oxford.net> wrote:
>
>> I need the Formula for building antannas
>
>Terse isn't he?
>
>OK, I'll be terse too:
>
>L (ft) = 468 / f (MHz)
>
>--
>Eric Brombaugh KC7GXA
>emeb@indirect.com (private)
>ericb@sicom.com (work)

I agree. Let him figure out which antenna the formula is for. :-)

Kevin N0OAS/AAR8GF

4733. Re: strange 10m converted CB SSB RF problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: gray@news.humberc.on.ca
Message-ID: <4tgq8v$f7c@dns.humberc.on.ca>
Source record: 103771

Ken McCoy (kenmccoy@aol.com) wrote:
: I recently picked up a Cobra SSB CB converted to 10m by HyStar, and I'm
: having trouble with RF output on the sidebands (AM is fine). When I turn
: up the power mic, I get output only when I speak. Receive is fine.

: Is this normal for SSB? Shouldn't there be some kind of carrier to send
: unmodulated power to the antenna? I'm thinking the SSB filter circuitry is
: somehow not exactly tuned for 10m, thus making the power mic necessary?

: I had a local QSO (4 miles) on SSB with a signal report of S-5 and the
: power mic turned up. I know the rig has 4W AM output, but I thought 25W
: was standard on SSB.

: Anyone have any ideas?

: 73 de KF4BQF Ken
: kmccoy@stetson.edu

Yes, that appears to be normal behaviour for a converted CB set. SSB transmitters remove everything except the one sideband that is to be transmitted before the signal is sent to the final power amplifier. With no audio input, you have no sidebands, and therefore no transmitted power.

The 4w output also doesn't surprise me. Most likely, the radio was simply retuned to transmit in the 10m band instead of the CB band. Changing the power output would also have required a considerable amount of tweaking, if not a complete replacement of the PA stages in the radio, something that would cost considerably more than a simple retuning, if it is practical to do at all.

If you want to get more power, your choices are essentially get a new radio, or get a linear amplifier to boost the power. I really don't see any alternatives that would be practical.

<o_o>

4734. Need schematic IC-505

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: hduff@hcol.humberc.on.ca
Message-ID: <tcpnntpd.16.7.28.21.45.44.2443217854.3166005@hcol.humberc.on.ca>
Source record: 103772

Looking for a copy of a schematic for the Icom IC-505 6 meter
all mode transceiver.
Gladly pay any copying and postages costs.

Please e-mail:
hduff@hcol.humberc.on.ca

• NFX v1.3 [000]

4735. need SAMS Photofact CB-64

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: ccashion@ix.netcom.com
Message-ID: <4tg15n$rep@dfw-ixnews8.ix.netcom.com>
Source record: 103773

I would like to convert a Midland 13-386 from SSB to 10 meters.
(With luck, it will be finished before the sunspots return)
The conversion would be easier if I could find a SAMS Photofact
volume CB-64. If you have one you would sell, please let me know.
If you have one and you would be willing to xerox those pages,
I would pay for that. If know somebody that sells them, and they
still have this volume, that would be helpful. As a last resort,
if you simply want to give me a copy, I would be grateful.
72s, 73s, whatever it takes,
Charles Cashion
W5ISZ
ccashion@ix.netcom.com
work ccashion@spd.dsccc.com

4736. Parts for HF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: tejas@applink.net
Message-ID: <4tgj2o$f1g@news2.nkn.net>
Source record: 103774

I'm looking for sources for parts to be used in the construction of a HF Amplifier. Any sources are welcome, especially a sources for vernier dials/drives.

Herb WA5YKO

4737. Re: strange 10m converted CB SSB RF problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: kenmccoy@aol.com
Message-ID: <4tha6f$c0n@newsbf02.news.aol.com>
Source record: 103775

I should have defined the subject as a strange *question*. :) I'm brand new to SBB and got confused over the meter jumping around.

Anyway, thanks to all for the courteous replies.

Ken
KF4BQF

4738. Ferrite Bars.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: Yvon Roy <rextel@sympatico.ca>
Message-ID: <31FC41DF.3F08@sympatico.ca>
Source record: 103776

Can any one give me information on the availability of ferrite bars to build a 60 Khz antenna. Thanks.

4739. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: lyndon@ve7tcp.ampr.org
Message-ID: <4thl78$iog@ve7tcp.ampr.org>
Source record: 103777

dmoorman@interaccess.com (Dave Moorman) writes:
>
>> I'm with you, Art. But may I point out that '73' means 'best regards'
>> That make the above 'best regards's'

>The apostrophe is being used as it is after the plural of an acronym, such
>as TV's, CD's, etc., where it is appropriate.

73 is not an acronym, it's a prosign (or macro). "73's" is by all
accounts incorrect usage.

In this age of no-code licensing, why does anyone even care?

--lyndon

--

Engage your brain before your mouth ...

4740. Re: WTD: Dick Smith 80 Meter Kit Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-28 00:00:00 UTC
From: jah@ois.com.au
Message-ID: <4tengh$rr6@news.mel.aone.net.au>
Source record: 103778
Cross-posted to: aus.radio.amateur.misc,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.swap,uk.radio.amateur

sexton.r@ix.netcom.com (Rickie L. Sexton) wrote:

>I need an assembly/operating manual for the Dick Smith 80 Meter xcvr kit.
>This was sold in the US during the late 80's/early 90's in kit form only. I
>have 3 of them assembled from a ham fest but only one receives, none transmit.
>Would appreciate help in locating a manual. I will be glad to pay for copies,
>postage and a service fee for your trouble.

>reply e-mail to sexton.r@ix.netcom.com
>or snail mail to

>Rick Sexton, KF9MT
>5932 Elaine St.
>Speedway, IN 46224

>317-328-5629

>thanks & 73

>--
>Rickie L. Sexton
>Speedway Cleaning Shops, Inc.
>Serving Central Indiana's Cleaning Needs
>with 6 convenient locations!!!!!

Write to Dick Smith Electronics
Cnr Lane Cove & Waterloo Roads
North Ryde
NSW 2113
Australia
Phone 2 9937 3200
Fax 2 888 3631
(add international dialing codes)

They can provide circuit diagrams and kit construction notes for most
kits they have sold in the past.

This kit was also described in Electronics Australia magazine and they
can provide reprints of the article for $AUS 7.50.
Write to Electronics Australia
PO Box 199
Alexandria
NSW 2015
Australia
Phone 2 3530620

--
John.A.Hassell VK6JAH
jah@ois.com.au

4741. Please identify Thordarson transformer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: johnoz@indy.net
Message-ID: <4thclb$c93@news.indy.net>
Source record: 103684

I have a Thordarson transformer Type T-21P83. Appears to be plate transformer about 1250V-CT-1250V secondary and primary with one tap. Does anybody have specs. for this transformer?

Thanks. JohnO. KB9MIE.

4742. Re: Please identify Thordarson transformer.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: dunnt@starbase1.caltech.edu
Message-ID: <dunnt-2907960812360001@tom-dunn.caltech.edu>
Source record: 103685

In article <4thclb$c93@news.indy.net>, johnoz@indy.net (Occolowitz John) wrote:

> I have a Thordarson transformer Type T-21P83. Appears to be plate transformer
> about 1250V-CT-1250V secondary and primary with one tap. Does anybody have
> specs. for this transformer?
>
> Thanks. JohnO. KB9MIE

Thordarson catalog number 610 list the 21P83 as having a secondary voltage
of 1250-0-1250, or 1560-0-1560. The catalog states "Secondary voltage may
be changed by primary tap. Either of the given voltages are available."
The secondary current rating is 200ma. It is 115vac primary. 73 Tom
WB6IQD

4743. Re: Help SB-300 S meter/AGC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul29.140528.10298@ke4zv.atl.ga.us>
Source record: 103686

In article <4t9h17$opn@nadine.teleport.com> lroland@teleport.com (Roland) writes:
>Thanks for reading..... I have and SB-300 with a problem in the AGC
>circuit or S meter circuit. With AGC off I get little or no reading
>in the S meter. Switching in the AGC in either fast or slow restores
>the S meter but degrades signal quality. Any ideas? Radio works ok
> otherwise, tubes test ok and voltages are in the ballpark. Thanks.
>/John WB7SWB E-mail lroland@teleport.com
> Packet WB7SWB@W0RLI

What most S meters really read is the AGC voltage. If you switch
AGC off, then the meter doesn't read. (Adjusting manual RF gain,
which also manipulates AGC voltage, will cause the meter to read
upscale on these radios too.)

Of course AGC degrades the signal. It distorts the receiver's
dynamic range, and hence signal dynamics. That's its purpose.
You can have true dynamic range and fidelity with AGC off, or
you can have compressed dynamics with the AGC on. Your choice.
Only the former is linear. The latter is often desired, however,
when you have to deal with a mix of strong and weak signals on
a band. You have to live with the reduction in fidelity.

If the signals are *seriously* distorted, however, and not just
compressed, then the first RF stage may have a problem. Its bias
point may have shifted so that AGC drives it into cutoff. Make
sure you have the correct tube type in there. Often, remote
cutoff pentodes were used in tube receivers. Since some of those
are now rare, other tubes were substituted which didn't have a
remote cutoff characteristic. That can cause serious AGC problems.
Component aging can also shift the bias point.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4744. unsubscribe

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: victorj@fast.NET
Message-ID: <m0ukvS8-0003rxC@fast.net>
Source record: 103687

unsubsrcibe

4745. Re: High voltage transformers

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: Paul Beastall <paulb@garden.bt.co.uk>
Message-ID: <4tiqhq$bq1@pheidippides.axion.bt.co.uk>
Source record: 103688

I know I am replying to my own post but following a call to Peter Dahl &
Co I thought people may like to know that they have a web site now on

http://www.1eagle1.com/commercial/pwdco/

I hope that is sueful to some people

73

Paul Beastall, G1WBZ
Ipswich, UK.

4746. Re: TV Frequinces

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: Butch Magee <butch@apollo.wes.army.mil>
Message-ID: <31FD013A.CFC@apollo.wes.army.mil>
Source record: 103689

Bill Newkirk wrote:
>
> In <31F5CBE5.70C6@mailhost.oxford.net>, A Guy named Moe <skubik@mailhost.oxford.net>
writes:
> >How can I find out the frequences that TV stations are using?
>
>I HAVE THEM SOMEWHERE BILL AND CANT FIND THEM JUST NOW. GO TO
REC.RADIO.SCANNER AND POST THERE. IN THE MEANTIME, I'LL KEEP LOOKING
AND IF I FIND'M I'E-MAIL TO YOU.

BUTCH KF5DE

4747. Re: strange 10m converted CB SSB RF problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: nipeders@online.no
Message-ID: <4tj3ud$5iu@o.online.no>
Source record: 103690

kenmccoy@aol.com (Ken McCoy) wrote:

>I should have defined the subject as a strange *question*. :) I'm brand
>new to SBB and got confused over the meter jumping around.

>Anyway, thanks to all for the courteous replies.

>Ken
>KF4BQF
<<<
"strange" questions is an excellent way to learn, and as you see: You
got a lot of good replies! Keep on asking!
73 de LA7SL

4748. Re: Catalogs

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: Roland Burgan <rburgan@up.net>
Message-ID: <31FCC43F.BDF@up.net>
Source record: 103691
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Jim wrote:
>
> try these:
>
> http://www.digikey.com
> http://www.minicircuits.com
> http://www.penstock.avnet.com
> http://www.mot.comhttp://www.mouser.com/

4749. Schematic for S-meter?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: alandp@flash.net
Message-ID: <4tiqvj$c6v@excelsior.flash.net>
Source record: 103692

Can anyone point me to a source for an S-meter
schematic? I'm building my first QRP kit and
I would eventually like to try adding an
S-meter to it if I can.

73 -- Alan KJ5ZD

4750. FS: Lots of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <4th6b0$s92@nr1.toronto.istar.net>
Source record: 103693

I bought a ton of stuff from a surplus store that is closed down here
is a basic list of what i got to sell. if Interested, email me.

Telescoping Antennas
Extened length Retraced lengh Price
41.0" 8.5 2.85

40.75 7.5 3.10

Speakers Price
Flat 1 1/4" 0.4 watt 8 ohm 1.75

1 3/4 1 watt 8ohm 2.00

2" diameter 8ohm .5 watt 2.00

4" 10 watt 8 ohm 5.45

Amplifed Multi-Media Stero Speakers
7.2 watt output Uses C battaries 15.50

Soldering Stuff

30 watt Soldering Iron 7.00

18ga. 60/40 rosin core Solder 110" 2.25

1LB solder KESTER "44"
60/40 rosin core .031" dia. 15.75

Rosin Soldering Paste/Flux 2.25

Resistors

All makes at 1/4 watt 10 for 0.85
100 for 5.50
200 for 7.50
1000 for 17.50

All makes at 1/2 watt 10 for 0.90
100 for 6.50
200 for 9.00
1000 for 19.50

TV/Video Stuff

Connectors -Too may to list, send your requests

Coaxial Spliters

2-way Small size 75ohm 1.75

3 way 5-890Mhz 75ohm 2.25

4-way 5-890Mhz 75ohm 3.50

Used S-VHS Tapes 5.00

hi 8mm Video Camcorder cassette (used)
sony t-120 120 minutes 5.00ea
10 for 47.50

Project Boxes

2 11/16 x 1 11/16 x 1 3/16" 2.85

3 5/16 x 2 1/8 x 1 3/8 3.15

Capacitors

many values send request lists

Two AA cell holders 1.00ea
2 for 1.75
100 for 65.50

Batterys
Different sizes and types send request

Motors

Many type and values send requests

720k ram Disk drives (New) 25.00
Sony

Transistors

Many types send Want list

Plugs and Jacks and Stuff

A bit of everything Send want list

Solar Panels

2 volts 350ma 6" x 1.8" x 0.01" 10.00

9VDC 60ma 6" x 6" 9.75

I have some other odds and ends so if you what something, I probable
have
it or could get it

Thanks

4751. FS: Lots of Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: A Guy named Moe <skubik@mailhost.oxford.net>
Message-ID: <4th6ac$rsk@nr1.toronto.istar.net>
Source record: 103694

I bought a ton of stuff from a surplus store that is closed down here
is a basic list of what i got to sell. if Interested, email me.

Telescoping Antennas
Extened length Retraced lengh Price
41.0" 8.5 2.85

40.75 7.5 3.10

Speakers Price
Flat 1 1/4" 0.4 watt 8 ohm 1.75

1 3/4 1 watt 8ohm 2.00

2" diameter 8ohm .5 watt 2.00

4" 10 watt 8 ohm 5.45

Amplifed Multi-Media Stero Speakers
7.2 watt output Uses C battaries 15.50

Soldering Stuff

30 watt Soldering Iron 7.00

18ga. 60/40 rosin core Solder 110" 2.25

1LB solder KESTER "44"
60/40 rosin core .031" dia. 15.75

Rosin Soldering Paste/Flux 2.25

Resistors

All makes at 1/4 watt 10 for 0.85
100 for 5.50
200 for 7.50
1000 for 17.50

All makes at 1/2 watt 10 for 0.90
100 for 6.50
200 for 9.00
1000 for 19.50

TV/Video Stuff

Connectors -Too may to list, send your requests

Coaxial Spliters

2-way Small size 75ohm 1.75

3 way 5-890Mhz 75ohm 2.25

4-way 5-890Mhz 75ohm 3.50

Used S-VHS Tapes 5.00

hi 8mm Video Camcorder cassette (used)
sony t-120 120 minutes 5.00ea
10 for 47.50

Project Boxes

2 11/16 x 1 11/16 x 1 3/16" 2.85

3 5/16 x 2 1/8 x 1 3/8 3.15

Capacitors

many values send request lists

Two AA cell holders 1.00ea
2 for 1.75
100 for 65.50

Batterys
Different sizes and types send request

Motors

Many type and values send requests

720k ram Disk drives (New) 25.00
Sony

Transistors

Many types send Want list

Plugs and Jacks and Stuff

A bit of everything Send want list

Solar Panels

2 volts 350ma 6" x 1.8" x 0.01" 10.00

9VDC 60ma 6" x 6" 9.75

I have some other odds and ends so if you what something, I probable
have
it or could get it

Thanks

4752. TS-140s Computer Interface Question

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: vigilant <vigilant@cetlink.net>
Message-ID: <01bb7d9c.e9d2d820$dd681fce@mjs-enterprises>
Source record: 103695

Hi, I am looking to build a computer interface for my TS-140s (Kenwood).
Looking at the schematics it would appear that the data bus is parallel.
Has anyone had experience interfacing this radio to a computer with a
homebrew iinterface?.....Thanks in advance

--
Jerry Moore / AE4PB.....

4753. WTB: Dead Amp for High School

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: ADS <ads@zipnet.net>
Message-ID: <31FCED84.531F@zipnet.net>
Source record: 103696

Wanted, dead HF-Amp for high school radio club. Needs to be free or close to it. We pay shipping. E-Mail ASHLAND HIGH SCHOOL RADIO CLUB (KB1BUC) at ads@zipnet.net.

4754. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: kurang ajar <agzol@pc.jaring.my>
Message-ID: <31FC9542.144E@pc.jaring.my>
Source record: 103697
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

pls. email me the ckt diagram of the above converter

agzol@pc.jaring.my

4755. Wanted: Triodes, WE Stuff

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: tubebuyer@aol.com
Message-ID: <4thgrg$etd@newsbf02.news.aol.com>
Source record: 103698

I looking for triodes to use in audio amplifier projects, as well as transformers, etc that I can use. . I also collect almost anything manufactured by Western Electric. I have Ham gear and cash to trade.

Thanks and Best Regards,

Rick

4756. Re: strange 10m converted CB SSB RF problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <31FC3762.797@flinet.com>
Source record: 103699

Ken McCoy wrote:
>
> I should have defined the subject as a strange *question*. :) I'm brand
> new to SBB and got confused over the meter jumping around.
>
> Anyway, thanks to all for the courteous replies.
>
> Ken
> KF4BQF
the legal limit for ssb for the CB was 12 watts so that is most likely
to be the power out put for the 10 meter band after the conversion.
duane ab4be

4757. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: grohe@galaxy.nsc.com
Message-ID: <31fc789a.646851@139.187.128.43>
Source record: 103700
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

On Sat, 27 Jul 1996 13:40:14 GMT,
in the newsgroup sci.electronics.design,
slwork@netcom.com (Steve Work)
from NETCOM On-line Communication Services thoughtfully posted:

> How do you connect the baseband output of the IRD to the general coverage
> radio?

A cable.... ;^)

> Obviously the level from the IRD is a volt or so, and the
> receiver wants microvolts.

Yes. You will need a attenuator pad betwixt them.

> Also, there is the issue of interference from
> such things as AM broadcast stations.

The signal levels are high enough so that cabling and impedance
match are not an issue. I never had any problems with
interference from AM/SW stations (and I lived in the shadow of a
50kW AM station *and* a 10kW SW station).

> Does anyone have suggestions for
> type of cable, attenuation method, etc. which can be used to connect the
> two together?

A hunk of RG-6, a -20 dB attenuator (if your communications
receiver does not have an input attenuator) and whatever adapters
are needed to get from the video output to the receivers input.

Radio Shack has an adjustable attenuator (#15-578) that should be
adequate.

Video out >>--------->> atten >>-------->> Receiver input

That's it!

(NOTE: If your TVRO receiver has a second "unfiltered" or
"unclamped" video output, use that one.)

Cheers,
Paul Grohe

Paul Grohe National Semiconductor Corp.
Sr. Electronics Technician 2900 Semiconductor Drive
AMPS New Products Eng Group Mail Stop C2693

Mailto:grohe@galaxy.nsc.com Santa Clara, CA. 95052-8090 USA
(408) 721-7389 Tel (408) 721-2513 Fax
Usenet Disclaimer: Any opinions expressed are mine, not NSC's

http://www.national.com

For technical assistance, literature, or samples call:
NORTH AMERICA EUROPE
(800) 272-9959 +49 (0) 180-532 78 32
mailto:support@tevm2.nsc.com mailto:europe.support@nsc.com

4758. Re: Modem Information

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: Katherine Look <klook@net66.com>
Message-ID: <31FD800E.3433@net66.com>
Source record: 103701

A Guy named Moe wrote:
>
> Does anyone have schematics, comonent lists, layouts of 14.4 kbps or
> 28.8 kbps modems?

Rockwell data book has schematics for generic modems that use their chipsets. Many popular modems are practically identical to these designs.

4759. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: Neil Gjere <ngjere@skypoint.com>
Message-ID: <31FD8D26.14AC@skypoint.com>
Source record: 103702
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

Christopher W. Boone wrote:
>
> Thor Wiegman wrote:
> > As my boss always says "why re-invent the wheel?" Western Multiplex makes
> > a little SS unit for 2GHz called the Lynx. These are showing up on the
> > surplus market because for high reliablilty/quality most cell techs don't
> > like them (a matter of personal taste). I would think that picking up a
> > used pair of these would be cheaper and easier than building something
> > unless you're looking for the experience. These units don't require a
> > license for operation as they are covered under part 15. I've put up 40
> > mile hops with them (using 8 foot high performance dishes) so I would
> > think that a pair of homebrew yagi's would get the job done for you.
>
> I agree!!! My company has several of the LYNX at 2Ghz operating and are
> doing great...one 12 mile hop and some are as much as 28 mile hops!
> No problems with them at all!
>
> BTW his idea would be perfect with the LYNX since he would run a straight
> T1 connection and at the internet provider would be able to pump right
> into their router (maybe without using a DSU!)..
>
> Gee I wish I had that problem!
>
> Chris

So where can one pick up a set of these units and what type of costs
are we talking about???

4760. FT227R battery backup mod

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: af389@lafn.ORG
Message-ID: <31FCB90F.1035@lafn.org>
Source record: 103703

I need to modify my nice old FT-227R memorizer rig to add a battery backup to RAM for retaining last operating frequency when the unit is powered off. I think I saw a modification for this refered to recently on this news group. My searching thru mod info has turned up nothing.

Any help will be appreciated.
Thanks, W6MIK
--

_____
Dave Shalita, af389@lafn.org

4761. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: duane <duane@flinet.com>
Message-ID: <31FD8801.70F8@flinet.com>
Source record: 103704

Lyndon Nerenberg wrote:
>
> dmoorman@interaccess.com (Dave Moorman) writes:
> >
> >> I'm with you, Art. But may I point out that '73' means 'best regards'
> >> That make the above 'best regards's'
>
> >The apostrophe is being used as it is after the plural of an acronym, such
> >as TV's, CD's, etc., where it is appropriate.
>
> 73 is not an acronym, it's a prosign (or macro). "73's" is by all
> accounts incorrect usage.
>
> In this age of no-code licensing, why does anyone even care?
>
> --lyndon
>
> --
>
> Engage your brain before your mouth ...

it amazes me to see others past judgment, on others for the minor things in life. yes we should all spell correctly. however; how good are you in all other areas. are you so perfect that you are always correct and never make a mistake. have you ever given advise and then discovered you were wrong. some people spell better than others and others are better at other things. I know a very intelligent person with a masters degree but his spelling is very bad I guess in your eyes he should have never earned the degree. My spelling is bad also but mostly because of my hearing problem all my life, not discovered until late in life. He who is without sin cast the first stone !! Or maybe judge yourself before judging others. My uncle is worth a lot of money. Never finished elementary school he cant read or write but math is his forte. This is not directed at anyone but to those who are quick to judge.

4762. Re: finger stock-where to buy??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: Clifford Buttschardt <cbuttsch@slonet.org>
Message-ID: <Pine.SOL.3.93.960729175554.2938D-100000@spork.callamer.com>
Source record: 103705

Where can small quantities of finger stock be purchased? I need the kind that is only one quarter inch wide with a large number of fingers so that the assembly can be fashioned in a one inch diameter around a tube base.
Cliff Buttschardt K7RR

4763. Re: strange 10m converted CB SSB RF problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <4th3eh$ran@opal.southwind.net>
Source record: 103779

In article <4tg356$pp0@newsbf02.news.aol.com>, kenmccoy@aol.comy says...
>
>I recently picked up a Cobra SSB CB converted to 10m by HyStar, and I'm
>having trouble with RF output on the sidebands (AM is fine). When I turn
>up the power mic, I get output only when I speak. Receive is fine.

This is totally normal for SSB. SSB is much more efficient than AM because of this. Instead of radiating a steady carrier as in AM, that carrier is supressed and only the modulated portion of the RF is transmitted. I am not familiear with the CB to 10M conversions but there should be some setting on the rig where the most power is put out without distorting and raditating unacceptable spurs. It seems like it is normal for CB to run a little more power on SSB than on AM (15 watts is what sticks in my mind) but I'm not sure of that.

Good luck.
73's de Zack, AA0XQ

4764. Re: strange 10m converted CB SSB RF problem

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: nipeders@online.no
Message-ID: <4th46c$qvb@o.online.no>
Source record: 103780

kenmccoy@aol.com (Ken McCoy) wrote:

>I recently picked up a Cobra SSB CB converted to 10m by HyStar, and I'm
>having trouble with RF output on the sidebands (AM is fine). When I turn
>up the power mic, I get output only when I speak. Receive is fine.

>Is this normal for SSB? Shouldn't there be some kind of carrier to send
>unmodulated power to the antenna? I'm thinking the SSB filter circuitry is
>somehow not exactly tuned for 10m, thus making the power mic necessary?

>I had a local QSO (4 miles) on SSB with a signal report of S-5 and the
>power mic turned up. I know the rig has 4W AM output, but I thought 25W
>was standard on SSB.

>Anyone have any ideas?

>73 de KF4BQF Ken
>kmccoy@stetson.edu
<<<
Ideally SSB-transmitters should have no output at all without
modulation. Very little carrier (not visible on meter) is present.
The SSB-filter(s) is not operating on the output freqency (10m)
but on an intermediate fixed-freqency, and will normally not need
any retuning.Normal human voice has a low average power-
content with high and very short peaks. The power-rating of
a SSB-transmitter is usually given as PEP (peak envelope power)
and is the maximum power the transmitter will deliver without objec-
tionable distortion on these short peaks (not average).. Your output
meter is not fast enough to show these peaks, and will rather tend to
show the average- level. When You try to raise the average level by
using an amplified (power-) mic, there is a great risk that your
transmitter will overload on vcoice-peaks.- leading to what is called
splatter. This does not give you higher power, but simply spreads your
power out across the band, thus actually lowering your in-channel
useful power, and causing noise on adjacent channels. The exception is
if your power-mike has a well-designed compressor or clipper built
into it. Such circuits works by reducing the peak/average ratio of
your voice and thereby raise your average power. Bear in mind,
however, that this increases the load on your transmitter and leads to
much more heat generated in the circuits. Generally CB - units are not
designed to handle this safely....(own experience.....)

good luck and 73's from "Peter" LA7SL

4765. FS ~300 Watt amp. 20 to 80 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: Wave@mindspring.com
Message-ID: <4th5ol$v4c@mule2.mindspring.com>
Source record: 103781
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap

I have an amplifier module that does about 300Watts output class AB from 20 to 80 MHz. The amplifier is designed for 48 Volts, but will work at reduced levels if powered with a lower voltage. It also requires a low current 12 volt supply for the biasing. It has 2 transistors and very nice input and output broadband transformers. Send me some e-mail if you need more info. This is a great amp module for a homebrew project.

$100 shipped

Pieter Ibelings
AC4OP

4766. Re: FS ~300 Watt amp. 20 to 100 MHz

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: Wave@mindspring.com
Message-ID: <4th66b$v4c@mule2.mindspring.com>
Source record: 103782
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.swap

Sorry amp is actually 20-100MHz.

Pieter
AC4OP

4767. Re: helical resonators

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-29 00:00:00 UTC
From: joeuribe@ix.netcom.com
Message-ID: <4thbc5$inp@dfw-ixnews2.ix.netcom.com>
Source record: 103783

farside@io-online.com (John) wrote:

>I am looking for some plans on how to build a 2-meter helical
>resonator (band pass).

>John
>KE6ZUZ

Toko makes some. They're available through DigiKey.

www.DigiKey.com

4768. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: kmec@aol.com
Message-ID: <4tmlat$h9b@newsbf02.news.aol.com>
Source record: 103634

Hi Nick;
Just happened to notice the thread on digital MW radio that you got started. Well, those guys really got quite far from the idea, which was a data link, not an R&D project. Not one of them mentioned the 22/23 GHz no-license band and surplus! Just so happens I have several sets of T1 digital links made by GE called GEMLINKS. Full duplex T1 capable, turn-key, integrated antenna/transceiver with indoor modem, like new in the box (actually, used by DOD-NSA for short term project and bought by me, surplus). Cost is 650.00 per set, and of course you will need two (one for each end). This avoids the problem with using 900/2400 MHz bands (very crowded, lots of EMI) and of using the Ham bands with all the Ham band issues. This band is made exactly for this purpose, the units have dishes (directional) and use low power (15 mW). The range is up to 10 km, so your link will be no problem. If you need more bandwidth, I have some 22 GHz systems by DMC that can handle 4 - T1, but these are more money.

Give me a call for more details - 410-461-5544

Jeff Kruth
WA3ZKR

4769. basic transmitter? how to build

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: Trent Howard <tmhoward@dirac.cca.rockwell.com>
Message-ID: <31FE6F82.67D6@dirac.cca.rockwell.com>
Source record: 103635

I want to build a simple dirty transmitter for setting off radar detectors. I assume I need a gun diode oscilator(of appropriate freq range) but I am not sure on the rest..if anyone knows of a circuit out there I can look at it would be greatly appreciated

Thanks
Trent

4770. ?: 49MHZ MOD

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: Aubrey Hawkins <aubreyh@why.net>
Message-ID: <31FEEF15.6F8B@why.net>
Source record: 103636

I have heard that there is a mod around that converts the 49 MHZ talkies
that radio shack puts to have them work on 6m. Has anyone heard of
this.. I heard that you have to change some xtals.

Any help would be appreciated.

73s,

Aubrey Hawkins
KC5USI
Dallas

4771. Need: Docs on W2JAV TTY TU

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: rmmiller@ix.netcom.com
Message-ID: <4tju9m$noe@sjx-ixn4.ix.netcom.com>
Source record: 103706

Yea, tis an old one

Would like a copy of the original article or at least a print of the W2JAV TTY Terminal Unit. Used a simple form of cross coupled Neon Lamp gates for Mark only or Space only copy on HF. Granted it is a dated design, but I'm assembling a copy of my original TTY station and I have missplaced the W2JAV data. Happy to cover copy and mailing costs.

73

Bob, KE6F
9655 Appalachian Dr.
Sacramento, CA 95827

4772. Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <4tk4pb$hlf@opal.southwind.net>
Source record: 103707

I'm building a 20M tranceiver with SSB/CW receiver. I'm looking at a dual conversion but am unsure of which IF's to use. I found a digital VFO to use with it which will tune from 0-10MHz with no problems and is capable ot tuning up to 20MHz. Considering availbility of filters and ease of contruction, what factors should be considered when selecting the IF?
Thanks.

73's de Zack, AA0XQ

4773. Help finding IC chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <4tk4tv$hlf@opal.southwind.net>
Source record: 103708

Does anyone know where I can find an HSP45102PC-40 IC made by Harris Semiconductors. They call it a "12-bit numerically controlled oscillator IC." It basicially produces a digital sine wave to drive a DAC for DSS. Any help would be appriciated.

Thanks.
73's de Zack, AA0XQ

4774. Re: AM Modulation with SS Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: claude@bauv.unibw-muenchen.de
Message-ID: <claude.838716931@bauv111>
Source record: 103709

w8jitom@aol.com (W8JI Tom) writes:

>In article <4t5fch$aqu@globe.indirect.com>, jeffd@coriolis.com (Jeff
>Duntemann) writes:

>>I'm not sure what the governing physics is in this case.
>>I would guess the audio response would be better but I'm not sure.
>>Any thoughts there?

>Audio response is limited by core eddy currents causing a loss of
>permeability as frequency is raised, and by the winding method. Good audio
>transformers have the windings interleaved, so flux losses are reduced and
>coupling is improved.

Is not the load of the class C PA an asymetrical load ? When the peak
voltage of the PA reaches the double of the Va, the power is the quadruple.
When the peak anode voltage go to zero, the power is zero too. Because
the modulator is usually a push-pull circuit, the one of the output
stage device will handle the high power half-wave, while the other device
will handle the low-power half-wave.

Which are the problems associated with this fact ? Can the load be
equilized between the two output devices (tubes or SS devices) ?
--
Claude
(claude@bauv106.bauv.unibw-muenchen.de)
The opinions expressed above represent those of the writer
and not necessarily those of her employer.

4775. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: kproctor@ix.netcom.com
Message-ID: <31fd5fa1.602127170@nntp.ix.netcom.com>
Source record: 103710

On 28 Jul 1996 23:20:24 -0700, lyndon@ve7tcp.ampr.org (Lyndon Nerenberg) wrote:

>dmoorman@interaccess.com (Dave Moorman) writes:
>>
>>> I'm with you, Art. But may I point out that '73' means 'best regards'
>>> That make the above 'best regards's'
>
>>The apostrophe is being used as it is after the plural of an acronym, such
>>as TV's, CD's, etc., where it is appropriate.
>
>73 is not an acronym, it's a prosign (or macro). "73's" is by all
>accounts incorrect usage.
>
>In this age of no-code licensing, why does anyone even care?
>
>--lyndon
>
>
>--
>
>Engage your brain before your mouth ...

Having done the above, those of us that may not agree with the CW requirements do not, necessarily, want to trash all Amateur tradition.

In my opinoin, CW is the modern equivilant of spark transmission. It has no use other than pure enjoyment of those who like it. This is OK. There is no longer ANY commercial or military usage of CW. There will sonn be too few amateurs left who can copy it for it to be of any use in an emergency. Why shove it down everyone's throat when only a few actually enjoy it? How many Gerneral, Advanced, or Extra Class hams are there that can copy even 5 wpm any more?

Now that I have voiced my opinion, let me offer a solution. Keep the CW portions of the various bands for CW operators ONLY. Proficiency in CW must be demonstrated for thier usage. (An endorsement to the ticket perhaps?) Maintain the testing levels for the various classes of licences with stronger emphasis on theory, to replace the current code requirements. Add questions about operating courtesy (have you heard our glorified CB'ers on 20 meters recently?).

This solution is not what everyone would like, but I think it is a reasonable compromise.

Further discussion is welcome.

73,
Kevin N0OAS/AAR8GF

4776. Re: finger stock-where to buy??

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: "K.R.Burtchaell" <kburt@telis.org>
Message-ID: <4tksgu$meb@mentor.telis.org>
Source record: 103711

Cliff: Why don'tyou try Surplus Sales of Nebraska.1-800-244-4567?I don't know for sure that they have it but might be worth a try.Also you might be able to get sample from Instrument Specialties.
73 Ken W6GHV

4777. digital radio receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: hansen@ee.ucla.edu
Message-ID: <DvC485.7xK@seas.ucla.edu>
Source record: 103712

I am interested in designing a digital radio receiver. (Actually, an analog front end and digital IF and demod.) I'm looking for suggestions for an A/D converter - I'd like a 1 MHz sampling rate with 12-14 bits, 16 if possible. Thanks.

Chris Hansen, KQ6DW

4778. Re: digital radio receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: n4lq@iglou.com
Message-ID: <DvD87L.Jy@iglou.com>
Source record: 103713

There are such things. Check Rockwell/Collin's www homepage. I can't recall the URL but do a search on AltaVista for Digital Radio Collins 95s.

The 95s is a direct conversion, dsp receiver that covers 50kc to 2ghz. The only RF stage is the front in amplifier/filter. Processing is done at 70mhz! There are no I.F. stages, just pure dsp all the way. For a mere $15,000 you receive the main circuit board and you must supply the rest. It is computer controlled too.

There are other dsp units available as you can see from the www search. Also, a lot of sat. receivers use a/d converters that run at 70mhz.

N4LQ

Christopher J Hansen (hansen@ee.ucla.edu) wrote:
: I am interested in designing a digital radio receiver. (Actually, an
: analog front end and digital IF and demod.) I'm looking for
: suggestions for an A/D converter - I'd like a 1 MHz sampling rate with
: 12-14 bits, 16 if possible. Thanks.
:
: Chris Hansen, KQ6DW
:

--
Steve Ellington N4LQ@IGLOU.COM Louisville, Ky

4779. rf design problem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: workshop@pcm.co.za
Message-ID: <4tlf9j$2b4_004@pcm.co.za>
Source record: 103714

Hi there
Is there anyone who can help me figure out a problem concerning a design that I have seen in a book.You will need to have the book to help me.
The book is RF CIRCUIT DESIGN by CHRIS BOWICK.
On page 159 there is a diagram and design of a 15W 100MHz amplifier.
I understand the input and output matching that he has done,but where did he get the 310 ohm resistor and the 1uH coil that are connected to the collector of the transistor from.These are also in parallel with the output of the transistor and I would assume affect the matching network.These don't seem to have been taken into account.
Any help appreciated
Cheers
Robin
email : workshop@pcm.co.za

4780. Mod of the TRC-208 11M to 10M Help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: baack@midcoast.com
Message-ID: <4tlf3i$1hic@sol.caps.maine.edu>
Source record: 103715

Hello all, I happen to stumble upon some of these OLD CB HT's for CB.
(Radio Shack TRC-208 /4 channels, hi/low power BIG telescoping antenna...)

Understanding that these units are transmitting in AM, how difficult would it
be to convert to 10M am.?

Any help would be great.

Jason N1RWY

http://www.umecut.maine.edu/~baack (ham radio meets Applachian Trial hiking)

baack@maine.maine.edu

4781. Re: ARRL Radio Designer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: "William E. Sabin" <sabinw@crpl.cedar-rapids.lib.ia.us>
Message-ID: <31FDBC83.5EAE@crpl.cedar-rapids.lib.ia.us>
Source record: 103716

Zack Clobes wrote:
>
> Hi, I'm looking at purchasing the ARD to help in designing a homebrew 20M rig
> among other things. Any comments as to how acurrate, how difficult to use, how
> useful this software is?

ARD is an excellent and very powerful program for *linear* RF/AF circuit
simulations. It has excellent graphics, optimizer, statistical analysis.
It requires some study and some experience to master it, but the effort
is worth while.

For nonlinear circuit analysis, consider as an adjunct a SPICE freeware
from the Websites.

Bill W0IYH

4782. Re: rf design problem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul30.164342.16779@ke4zv.atl.ga.us>
Source record: 103717

In article <4tlf9j$2b4_004@pcm.co.za> workshop@pcm.co.za (Workshop) writes:
>Hi there
>Is there anyone who can help me figure out a problem concerning a design that I have
>seen in a book.You will need to have the book to help me.
>The book is RF CIRCUIT DESIGN by CHRIS BOWICK.
>On page 159 there is a diagram and design of a 15W 100MHz amplifier.
>I understand the input and output matching that he has done,but where did he get
>the 310 ohm resistor and the 1uH coil that are connected to the collector of the
transistor
>from.These are also in parallel with the output of the transistor and I would assume
affect
>the matching network.These don't seem to have been taken into account.
>Any help appreciated

I don't have the book in front of me, but I would opine that those
parts make up the shunt B+ feed for the stage. Their impedance should
be much higher than the output network's impedance at the amplifier's
design frequency (they should be about 1 kohm series), so they're
essentially invisible as far as matching is concerned (which should
be looking at a dynamic impedance on the order of 2 to 3 ohms). The
reason a resistor is used in the collector B+ circuit is to keep the
PEP collector voltage swing within the device ratings, IE if you ran
the collector directly off of 12 volts, the PEP swing might exceed
the transistor's breakdown rating.

That's just a guess of course since the circuit isn't in front of
me.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4783. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul30.165259.16921@ke4zv.atl.ga.us>
Source record: 103718

In article <31fd5fa1.602127170@nntp.ix.netcom.com> kproctor@ix.netcom.com (Just Me) writes:
>
>Further discussion is welcome.

Not *here*, it isn't. Follow up to policy on this topic please.
It is old ground, and well plowed on the policy group.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4784. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: dmoorman@interaccess.com
Message-ID: <dmoorman-3007960135180001@d166.w.interaccess.com>
Source record: 103719

In article <4thl78$iog@ve7tcp.ampr.org>, lyndon@ve7tcp.ampr.org (Lyndon Nerenberg) wrote:

> dmoorman@interaccess.com (Dave Moorman) writes:
> >
> >> I'm with you, Art. But may I point out that '73' means 'best regards'
> >> That make the above 'best regards's'
> >
> >The apostrophe is being used as it is after the plural of an acronym, such
> >as TV's, CD's, etc., where it is appropriate.
> >
> 73 is not an acronym, it's a prosign (or macro). "73's" is by all
> accounts incorrect usage.

Lyndon -

To make myself even more clear; The apostrophe is being used as if it were the plural of an acronym, such as TV's, CD's, where it is appropriate.

Dave

--
Dave Moorman Be big, don't belittle!
Downers Grove
Illinois, USA
http://homepage.interaccess.com/~dmoorman/DavesPage.html

4785. Re: 100 Mhz band converter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: Steve Kittelsen <stevekit@worldnet.att.net>
Message-ID: <01bb7daf$b7bd35c0$a00b74cf@stevekit>
Source record: 103720
Cross-posted to: sci.electronics.misc,sci.electronics.design,rec.video.satellite.tvro,rec.radio.amateur.homebrew

The schematics is available at http://home.eznet.net/redline/steve/

SK
--

* stevekit@worldnet.att.net
* steve_kittelsen@wxxi.pbs.org
* O P E N Y O U R M I N D ...
G**********A**********Y**********PRIDE********!

kurang ajar <agzol@pc.jaring.my> wrote in article
<31FC9542.144E@pc.jaring.my>...
> pls. email me the ckt diagram of the above converter
>
>
> agzol@pc.jaring.my
>

4786. Re: ARRL Radio Designer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul30.150357.16150@ke4zv.atl.ga.us>
Source record: 103721

In article <31FDBC83.5EAE@crpl.cedar-rapids.lib.ia.us> "William E. Sabin"
<sabinw@crpl.cedar-rapids.lib.ia.us> writes:
>Zack Clobes wrote:
>>
>> Hi, I'm looking at purchasing the ARD to help in designing a homebrew 20M rig
>> among other things. Any comments as to how acurrate, how difficult to use, how
>> useful this software is?
>
>ARD is an excellent and very powerful program for *linear* RF/AF circuit
>simulations. It has excellent graphics, optimizer, statistical analysis.
>It requires some study and some experience to master it, but the effort
>is worth while.
>
>For nonlinear circuit analysis, consider as an adjunct a SPICE freeware
>from the Websites.

Let me strongly echo Bill's thoughts here. If you're modeling oscillators,
mixers, or demodulators, ARD isn't the tool of choice. It isn't even the
tool of choice for linear circuits where there's a possibility of their
being driven into a nonlinear region. And forget bias simulations. Use
SPICE for those things. Where ARD is strong is in modelling LC networks
and matching networks for linearly operated devices. Its report features
are extensive and useful. The tuning and optimization features are less
useful unless you have the patience of Job, or a screamingly fast machine.

Microsim has a Designer's Workbench that incorporates a schematic
entry front end for SPICE, and a Probe report generator which is
almost the equal of the one in ARD. Sadly, it, like ARD, requires
Windows (boo!). They have a crippleware evaluation version free
for downloading (it's on the QRZ CDROM too). Its worth a look.

There's also an X program which works under Linux that's worth a look.
It includes some CAD features as well as a graphically wrapped SPICE
engine. (And it's free too.) I don't recall its name, but I've seen it
run at a friend's house, and I'm going to get a copy for my machine
and give it a trial. More later on this.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4787. Re: Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul30.160856.16473@ke4zv.atl.ga.us>
Source record: 103722

In article <4tk4pb$hlf@opal.southwind.net> zclobes@southwind.net (Zack Clobes) writes:
>I'm building a 20M tranceiver with SSB/CW receiver. I'm looking at a dual
>conversion but am unsure of which IF's to use. I found a digital VFO to use
>with it which will tune from 0-10MHz with no problems and is capable ot tuning
>up to 20MHz. Considering availbility of filters and ease of contruction, what
>factors should be considered when selecting the IF?

The classic design uses a 9 MHz IF. This allows direct mixing with
a 5.0 to 5.5 MHz VFO for coverage of 75m and 20m (note tuning is
backwards on 75m and sidebands invert, this is the historical reason
why 75m uses LSB and 20m uses USB). The other bands are reached by a
second conversion from/to one of these bands via a crystal oscillator
and mixer (40m is converted from 76m and the other bands are converted
from 20m, hence why 40m also uses LSB while the others do not). For a
20m only design, you won't need that. This mixing scheme should be
birdie free on 20m, and a simple front end bandpass filter will stop
images.

9 MHz SSB/CW filters are available, IE KVG and others, inexpensively,
and so are the sideband crystals. Your DDS will have no trouble
serving as the VFO for this design (though you'll probably need
a clean up PLL to get rid of the DDS spurs).

The other classic IF, 10.7 MHz, isn't good for a SSB/CW receiver
since good narrow filters are hard to find. IF transformers for
this frequency, however, are common as dirt. So if you're going
to use a discrete IF strip, this might serve if a second conversion
down to 455 kHz were used. You can get the good Collins mechanical
filters for 455 kHz (actually 450 kHz). Converting directly to 455 kHz
from the operating frequency will have image problems on the upper
HF bands, such as 20m, unless you use a tracking preselector in the
front end, but double conversion dodges this problem.

The modern approach is to use an upconverting first IF in the
45 to 70 MHz range. Icom uses a 69 MHz first IF in their IC-706.
They then downconvert to 9 MHz for narrow filtering. (The plug
in filters sold as options for this rig are another convienent
source of 9 MHz IF filters.) Icom uses high side injection, IE
70-124 MHz, to cover the HF bands plus 6 meters. Your DDS won't
do this directly, but then the spurs of the DDS make it too
dirty to use directly anyway. You'll need a cleanup PLL on the
output of the DDS to get rid of the spurs, so you can add a
programable divider to the loop and have your high side injection
source. This can give you general coverage of HF, which is more
than you are asking for, but it comes essentially free with this

design. A simple roofing filter will handle the image problem,
and the scheme can be nearly birdie free if the lower IF is well
shielded (it will be birdie free on 20m).

If you triple convert any of the above approaches down to 85 kHz,
then you can use ganged ordinary LC tuned circuits for your narrow
filter. That's the approach Drake took with the 2B and R4 series.
The bonus is that you can have an infinitely variable passband.
The downside is considerable mechanical complexity, and almost
certain birdies somewhere in the tuning range of the radio if
you don't do *extensive* shielding of the lower IFs and oscillators.

Since you say you want to use double conversion, an approach which
will give you passband tuning is to use 9 MHz and 455 kHz IFs in
a novel way. First convert to 9 MHz and pass through a SSB filter,
then downconvert to 455 kHz using another VFO and mixer, filter at
455 kHz with another SSB filter, and convert *back* to 9 MHz using
another mixer and the *same* second VFO. Varying the second VFO,
which only covers a 3 kHz tuning range (a VXO will do nicely), causes
the passband of one filter to tune across the passband of the other.
This gives you an effectively infinitely variable passband too, but
without the mechanical complexity of the 2B's gang tuned LC circuits.

This is really slick, and avoids the need for switchable filters
to suit SSB or CW bandwidths (unless you are careful, the switching
circuitry can allow blowby of the narrower filter in that scheme).
When the filters are perfectly overlapped, you have excellent SSB
filtering characteristics, even if the individual filters aren't
that great. When narrowed by sliding the lower filter so that only
part of the passband is shared by the two filters, the skirts are
only as good as those of a single filter, but the ability to precisely
tailor the bandwidth usually makes up for that.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4788. Re: AM Modulation with SS Amps.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul30.162822.16585@ke4zv.atl.ga.us>
Source record: 103723

In article <claude.838716931@bauv111> claude@bauv106.bauv.unibw-muenchen.de writes:
>w8jitom@aol.com (W8JI Tom) writes:
>
>>In article <4t5fch$aqu@globe.indirect.com>, jeffd@coriolis.com (Jeff
>>Duntemann) writes:
>
>>>I'm not sure what the governing physics is in this case.
>>>I would guess the audio response would be better but I'm not sure.
>>>Any thoughts there?
>
>>Audio response is limited by core eddy currents causing a loss of
>>permeability as frequency is raised, and by the winding method. Good audio
>>transformers have the windings interleaved, so flux losses are reduced and
>>coupling is improved.
>
>Is not the load of the class C PA an asymetrical load ? When the peak
>voltage of the PA reaches the double of the Va, the power is the quadruple.
>When the peak anode voltage go to zero, the power is zero too. Because
>the modulator is usually a push-pull circuit, the one of the output
>stage device will handle the high power half-wave, while the other device
>will handle the low-power half-wave.
>
>Which are the problems associated with this fact ? Can the load be
>equilized between the two output devices (tubes or SS devices) ?

It takes just as much modulator power to pull the output down as
to push it up, so the loads on the modulator devices are equal.
What isn't equal is the current in the secondary winding of the
modulation transformer. On positive modulation peaks, it is high,
as the modulator voltage adds to the PA power supply voltage, on
negative modulation peaks it is low, as the PA power supply voltage
is bucked by the modulator voltage. This can affect core saturation
design values, but unless the modulation transformer is allowed to
saturate (and it never should be allowed to saturate), the loads on
the push pull modulator devices will remain balanced as they
alternately buck and boost the PA power supply voltage (and hence
modulate PA current).

The fact that the PA is Class C, and asymmetric, is irrelevant
because that's at RF frequency and not AF frequency. At AF,
many many RF cycles pass for each AF cycle, so the load averages
out on the timescale the modulator tubes see. The modulation
transformer can be considered a smoothing choke to RF, so those
pulses the Class C stage draws are smoothed to an average value
as far as the modulator devices are concerned.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4789. Re: ARRL lawyer to sue member

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: rogerjb@earthlink.net
Message-ID: <4tlu0e$d10@chile.it.earthlink.net>
Source record: 103724
Cross-posted to: rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space

In <31F993CA.22C@isocor.com>, "John B. Stephensen" <john.stephensen@isocor.com> writes:
>There is no conflict of interest unless
>one of his clients decides to take legal action against another and asks
>his advice. At that point, most lawyers tell both of their clients to
>hire another lawyer to handle that legal action.

I don't know where you get your information, but it is both uninformed and incorrect. The ABA Model Rules of Professional Conduct Sections 2.0-2.2 makes it quite clear that if two clients are adverse in an action, the lawyer cannot represent either, unless one gives the lawyer permission to represent the other.

>Conflict of interest means that he is breaching confidentiality or using
>knowledge of one client to benefit the other.

No, that's not what it means. It means that the lawyer cannot diligently represent one client without failing to diligenly represent the other. (My words, but that's the gist of it.)

>Just the suspicion of this
>can cause his clients to leave. Proof gets him disbarred. No wonder he is
>pissed off.

Wrong again. Disbarment is not always the sanction imposed on a lawyer who violates the rules. Sanctions usually are less severe, such as a public reprimand, or other punitive, non-disbarment stuff.

73, John.

Roger J. Buffington
W6VZV
USC Law School Class of '97

rogerjb@earthlink.net

"I want to die peacefully, in my sleep, like my grandfather.
Not screaming, and in terror, like his passengers."

4790. Re: Parts for HF Amplifier

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960730003003704 32@zetnet.co.uk>
Source record: 103725

In message <4tgj2o$f1g@news2.nkn.net>
tejas@applink.net (Herb Blair) writes:

> I'm looking for sources for parts to be used in the construction of a HF
> Amplifier. Any sources are welcome, especially a sources for vernier
> dials/drives.

> Herb WA5YKO
================ comments GM0CSZ / KN6WH
Herb,
Perhaps not for vernier dials/drives ,but a good address for
filiment and HT transformers ,High Voltage capacitors both for HV
rectification systems (oil filled) and RF ,vacuum capacitors , HV
rectifiers (diodes,bridge units), RF inductors,power resistors, vacuum relays,
tube sockets,transient suppressors,air variable capacitors ,a good
address is : Peter W Dahl & Co , 5869 Waycross Ave El Paso -TX 79924
phone (915) 751-2300 fax (915) 751 0768
They send a comprehensive catalogue

Another address is Surplus Sales Of Nebraska, 1502 Jones Street -Omaha,
Nebraska 68102-3112 , however beware : Their prices are often
somewhat shocking........

Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4791. Re: rf design problem?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: hansen@ee.ucla.edu
Message-ID: <DvDDI6.7DJ@seas.ucla.edu>
Source record: 103726

Workshop (workshop@pcm.co.za) wrote:
: On page 159 there is a diagram and design of a 15W 100MHz amplifier.
: I understand the input and output matching that he has done,but where did he get
: the 310 ohm resistor and the 1uH coil that are connected to the collector of the
transistor
: from.These are also in parallel with the output of the transistor and I would assume
affect

They are probably there to keep RF out of the power supply.

Chris Hansen, KQ6DW

4792. 2m wx radio conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: Davew@cris.com
Message-ID: <4tlog0$1a@herald.concentric.net>
Source record: 103727

I have an older Radio Shack weather radio. It's crystal controlled, and it looks like it uses a single 16.202MHz crystal which I think is multiplied 10, and has a single 455kHz if (i think). Can I just replace the crystal to make a 2m rx? I just want a single frequency receiver that I can do a dtmf decode on to launch high power rockets. (the safe distance for some of the rockets we fly at our experimental launches is 1/2 mile to 1.5 miles, and yes do get FAA waivers, land owner permission, comply with ATF rules...). Will I need to adjust coils/inductors? Any suggestions on a crystal source?
Please reply here or to 150@westside.com

4793. WTD: Simple 50MHz tcvr kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: Martin Davies <Martin@amdavies.demon.co.uk>
Message-ID: <838757064snz@amdavies.demon.co.uk>
Source record: 103728

Does anyone in the USA know of any suppliers of kits for
building simple 50MHz SSB transceivers?

I'm a licensed Novice Instructor here in the UK and in the last
18 months I've coached six students through to pass the Novice
Radio Amateur Examination; this has enabled them all to obtain
Class B (VHF/UHF) Novice licences with 2E1 prefixes.

UK Novices are entitled to use the 6m band, and it occurs to me
that it would be better for my Novices to get to grips with a
decent band rather than starting on 70cms FM (2m isn't available
to them), just talking through repeaters. I feel it will give
them a better sense of achievement if they can make some 'DX'
contacts (at the right time of year and sunspot cycle!).
However, there is the major problem of an apparent lack of SSB
gear for 6m at affordable prices. All but one of my six Novices
are teenagers, so cost is an important factor in getting them
'on the air'. A target figure for a homebrew SSB QRP rig might
be under $200.

An alternative might be to build a simple 10m SSB transceiver
and also a 10m to 6m transverter - anyone got any suggestions on
suitable gear for this approach?

I'm sure there might be quite a decent market for a simple QRP
6m SSB rig, not only for Novices!

--
Martin Davies, G0HDB
Email g0hdb@amdavies.demon.co.uk
Packet BBS g0hdb@gb7glo.#46.gbr.eu

4794. Re: 2m wx radio conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: stevem@best.com
Message-ID: <4tlpqm$15j@shellx.best.com>
Source record: 103729

In article <4tlog0$1a@herald.concentric.net>,
Dave Harrison <Davew@cris.com> wrote:
>I have an older Radio Shack weather radio. It's crystal controlled, and
>it looks like it uses a single 16.202MHz crystal which I think is
>multiplied 10, and has a single 455kHz if (i think). Can I just replace
>the crystal to make a 2m rx? I just want a single frequency receiver that
>I can do a dtmf decode on to launch high power rockets. (the safe distance
>for some of the rockets we fly at our experimental launches is 1/2 mile to
>1.5 miles, and yes do get FAA waivers, land owner permission, comply with
>ATF rules...). Will I need to adjust coils/inductors? Any suggestions on
>a crystal source?
>Please reply here or to 150@westside.com

This kind of operation might be considered as RC model control which,
I believe, is only permitted on 6 meters with a 1W power restriction.

The RX mod you propose would probably work ok for 2M. Those receivers
are not very selective to begin with. You might not even have to
tune the front end.

Steve Muther WF6R

4795. Re: Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: rheiss@tuba.aix.calpoly.edu
Message-ID: <4tlro3$2mjt@tuba.aix.calpoly.edu>
Source record: 103730

In article <1996Jul30.160856.16473@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>
>The classic design uses a 9 MHz IF. This allows direct mixing with
>a 5.0 to 5.5 MHz VFO for coverage of 75m and 20m (note tuning is
>backwards on 75m and sidebands invert, this is the historical reason
>why 75m uses LSB and 20m uses USB).

Let's check that conventional wisdom about sideband inversion with a
thought experiment, an imaginary two-tone test with the VFO at 5.2 MHz.

IF
9000.0 kHz carrier
9000.8 kHz tone #1
9001.8 kHz tone #2
IF+VFO
14200.0 kHz carrier
14200.8 kHz tone #1
14201.8 kHz tone #2
IF-VFO
3800.0 kHz carrier
3800.8 kHz tone #1
3801.8 kHz tone #2

So the classic design does NOT invert sidebands.

A design which had both the sideband-inverting and backward-tuning
quirks was to use a converter from 75m to 20m with a high-side 18 MHz
crystal. To make things easier for the experimenter, he could start
with a 75m LSB rig. For that band, either an LSB-ladder filter made
from military surplus crystals or a 450 kHz Collins mechanical filter
would be adequate. Mix with an 80m VFO and he would be on the air.

73, Rob KO6KA
rheiss@calpoly.edu

4796. Re: ARRL Radio Designer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: Michael Tracy <mtracy@arrl.org>
Message-ID: <4tl68k$cjn@mgate.arrl.org>
Source record: 103731

>Zack Clobes wrote:
>
> Hi, I'm looking at purchasing the ARD to help in designing a
> homebrew 20M rig among other things. Any comments as to how
> acurrate, how difficult to use, how useful this software is?

Hi, I am the ARRL's software support person for the ARRL Radio Designer.
If you (or anyone else) has specific questions about ARD's capabilities
or specifications, please contact me by email (mtracy@arrl.org) or by
telephone (860-594-0333) for answers to your questions.

For general information on ARD, point your Web browser to:

http://www.arrl.org/ard/

Best Regards, Michael Tracy, KC1SX, ARRL Technical Information Services
---
American Radio Relay League, Inc. Tel: 1-860-594-0214
225 Main Street Fax: 1-860-594-0259
Newington, CT 06111 Email: mtracy@arrl.org (internet)

4797. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: rob@pe1chl.ampr.org
Message-ID: <DvCv3w.Ivx@pe1chl.ampr.org>
Source record: 103732
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.digital.misc

In <4tgsk5$d8q@gorgor.pa.tetherless.com> Mark <mark@tetherless.net> writes:

>There are many in these newsgroups that fail (or just won't) see the difference
>between Amateur (Part 97) and Non-Amateur (Part 15) uses in the upper UHF
>900 and 2400 MHz spectrum. This tends to confuse the poster - many of which
>(especially in the rec.radio.amateur.digital group) are not amateurs, but
^^^^^^^
>professionals just looking for information.

Hmmm, I would think they deserve to be confused when they try to get
professional information out of an amateur newsgroup...

>Their needs may be better served in the comp.std.wireless group, but for some
>reason, here is where they end up, having a number of people with their "you can't
>do that" messages quoting (and mis-quoting) Part 97 even though the poster had no
>reference or intention of using the Amateur bands in the beginning (or those that

Maybe 'we' should react more offensively against people who post clearly
non-amateur requests (like 'I want to have radio access to the Internet,
how can I do that') on this group. The group is focussing on amateur
radio homebrewing or digital transmission techniques, not on NCR Wavelan.

Rob
--
+-----------------------------------+--------------------------------------+
| Rob Janssen pe1chl@amsat.org | BBS: +31-302870036 (2300-0730 local) |
| AMPRnet: rob@pe1chl.ampr.org | AX.25 BBS: PE1CHL@PI8WNO.#UTR.NLD.EU |
+-----------------------------------+--------------------------------------+

4798. ARRL Radio Designer

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-30 00:00:00 UTC
From: zclobes@southwind.net
Message-ID: <4tk4k4$hlf@opal.southwind.net>
Source record: 103733

Hi, I'm looking at purchasing the ARD to help in designing a homebrew 20M rig among other things. Any comments as to how acurrate, how difficult to use, how useful this software is? It'll be running under win 95 with 8 megs of ram and a 486 dx2/66mhz machine.
Thanks

4799. GE Master II 220 MODS HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Rick McGaver <mcgaver@earth.execpc.com>
Message-ID: <4tmgtd$70f@daily-planet.execpc.com>
Source record: 103637

Need help / info on modifying these radios to put one on 220 as a repeater. Any help would be appreciated

Thanks in Advance

NK 9G /R
Rick

4800. GE Master II 220 MODS HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Rick McGaver <mcgaver@earth.execpc.com>
Message-ID: <4tmh0a$85g@daily-planet.execpc.com>
Source record: 103638

Need help / info on modifying these radios to put one on 220 as a repeater. Any help would be appreciated

Thanks in Advance

NK 9G /R
Rick

4801. GE Master II 220 MODS HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Rick McGaver <mcgaver@earth.execpc.com>
Message-ID: <4tmh0d$85j@daily-planet.execpc.com>
Source record: 103639

Need help / info on modifying these radios to put one on 220 as a repeater. Any help would be appreciated

Thanks in Advance

NK 9G /R
Rick

4802. GE Master II 220 MODS HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Rick McGaver <mcgaver@earth.execpc.com>
Message-ID: <4tmh0d$85k@daily-planet.execpc.com>
Source record: 103640

Need help / info on modifying these radios to put one on 220 as a repeater. Any help would be appreciated

Thanks in Advance

NK 9G /R
Rick

4803. GE Master II 220 MODS HELP!

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Rick McGaver <mcgaver@earth.execpc.com>
Message-ID: <4tmh2a$87j@daily-planet.execpc.com>
Source record: 103641

Need help / info on modifying these radios to put one on 220 as a repeater. Any help would be appreciated

Thanks in Advance

NK 9G /R
Rick

4804. Transformers FS

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: kq4zd@southeast.net
Message-ID: <31fecaca.2473009@news.jaxnet.com>
Source record: 103642

Have 1100VAC 800MA cont. duty and 5VAC CT 15A transformers for sale.
All NEW. All 115VAC primary. 1100V is 89.95 plus shipping. 5V is
29.95 plus shipping. E-mail KQ4ZD@southeast.net..

4805. Q: Where to find Specs for transistors?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: tmahanna@zipnet.net
Message-ID: <4tmv2o$3hn@zip0.zipnet.net>
Source record: 103643

Hi:
Are there any online databases that have specs on common
transistors? Thanks for any info.

-Tom

4806. Re: Help finding IC chip

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Madjid VE2GMI <orion@odyssee.net>
Message-ID: <31FEDF5B.33D4@odyssee.net>
Source record: 103644

Zack Clobes wrote:
>
> Does anyone know where I can find an HSP45102PC-40 IC made by Harris
> Semiconductors. They call it a "12-bit numerically controlled oscillator IC."
> It basicially produces a digital sine wave to drive a DAC for DSS. Any help
> would be appriciated.
>
> Thanks.
> 73's de Zack, AA0XQ

Try: http://www.electrobase.com/index.htm

they got a gigantic index of distibutors/manufacturers/products

4807. "Y" adapter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Scott Ryan <crtoy@fyiowa.infi.net>
Message-ID: <4tnm7o$ur6@nw101.infi.net>
Source record: 103645
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

I'm looking to purchase or build a "Y" adapter that will allow me to connect the mono audio out (headphone, 1/8") from a scanner and a SW receiver to one stereo headset.

My thought is to connect the SW receiver to the left channel of the headset and the scanner to the right channel, so as to listen to both audio's at once. Will this create any negative effects (feedback, etc.) to the headset or the receivers?

4808. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: wrt@eskimo.com
Message-ID: <31fec4a1.11689318@eskinews.eskimo.com>
Source record: 103646

ptracy@aol.com (PTracy) wrote:
<snip>
>"I" before "E", except after "C", or when sounding like "A" in neighbor or
>weigh. That how I remember it. Takes too many brain cells I guess.
>
>KE1C

I can think of at least nine common words that violate that rule. So is it
really a "rule"???

73, Bill W7LZP
wrt@eskimo.com

4809. Re: Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
Message-ID: <Ks8aDKAi2v$xEw2m@ifwtech.demon.co.uk>
Source record: 103647

Rob, KO6KA wrote:
>
>Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>>
>>The classic design uses a 9 MHz IF. This allows direct mixing with
>>a 5.0 to 5.5 MHz VFO for coverage of 75m and 20m (note tuning is
>>backwards on 75m and sidebands invert, this is the historical reason
>>why 75m uses LSB and 20m uses USB).
>
>Let's check that conventional wisdom about sideband inversion with a
>thought experiment, an imaginary two-tone test with the VFO at 5.2 MHz.
> ...
>So the classic design does NOT invert sidebands.
>
>A design which had both the sideband-inverting and backward-tuning
>quirks was to use a converter from 75m to 20m with a high-side 18 MHz
>crystal.

The "classic" design which does invert sidebands is a VFO in the 9.0-9.5MHz region with a home-made 5MHz filter using surplus FT243 crystals in cascaded half- or full lattices. These xtals were available in the 5MHz region, but not as high as 9MHz.

73 from Ian G3SEK Editor, 'The VHF/UHF DX Book'
'In Practice' columnist for RadCom (RSGB)
Professionally:
IFW Technical Services Clear technical English - world-wide.

4810. Re: Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: n7ws@azstarnet.com
Message-ID: <n7ws.173.0010262D@azstarnet.com>
Source record: 103648

In article <Ks8aDKAi2v$xEw2m@ifwtech.demon.co.uk> "Ian White, G3SEK"
<G3SEK@ifwtech.demon.co.uk> writes:
>From: "Ian White, G3SEK" <G3SEK@ifwtech.demon.co.uk>
>Subject: Re: Suggested IF frequencies
>Date: Wed, 31 Jul 1996 07:30:58 +0100

>Rob, KO6KA wrote:
>>
>>Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>>>
>>>The classic design uses a 9 MHz IF. This allows direct mixing with
>>>a 5.0 to 5.5 MHz VFO for coverage of 75m and 20m (note tuning is
>>>backwards on 75m and sidebands invert, this is the historical reason
>>>why 75m uses LSB and 20m uses USB).
>>
>>Let's check that conventional wisdom about sideband inversion with a
>>thought experiment, an imaginary two-tone test with the VFO at 5.2 MHz.
>> ...
>>So the classic design does NOT invert sidebands.
>>
>>A design which had both the sideband-inverting and backward-tuning
>>quirks was to use a converter from 75m to 20m with a high-side 18 MHz
>>crystal.

>The "classic" design which does invert sidebands is a VFO in the 9.0-
>9.5MHz region with a home-made 5MHz filter using surplus FT243 crystals
>in cascaded half- or full lattices. These xtals were available in the
>5MHz region, but not as high as 9MHz.

My first SSB rig was a Central Electronics 10A. This was a phasing rig
operating at 9 MHz with a 5 MHz VFO (usually a Command set BC4..something).

The filter rigs typically used MUCH lower IFs, 400 - 500 KHz for crystals, 20
- 50 KHz for LC filters.

I vote with Gary.

4811. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: "Bill Turner, WB4ALM" <wb4alm@gte.net>
Message-ID: <31FF92F6.1B88@gte.net>
Source record: 103649

Bill Turner wrote:
>
> ptracy@aol.com (PTracy) wrote:
> <snip>
> >"I" before "E", except after "C", or when sounding like "A" in neighbor or
> >weigh. That how I remember it. Takes too many brain cells I guess.
> >
> >KE1C
> ----------
> I can think of at least nine common words that violate that rule. So is it
> really a "rule"???
>
> 73, Bill W7LZP
> wrt@eskimo.com

As I understand it, English is the only language in the world that
has exceptions to the exceptions to the rule...
/s/ Bill Turner, WB4ALM

4812. Re: "Y" adapter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: ccart@erols.com
Message-ID: <4to4lm$6q6@test-sun.erols.com>
Source record: 103650
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Scott Ryan (crtoy@fyiowa.infi.net) wrote:
: I'm looking to purchase or build a "Y" adapter that will allow me to
: connect the mono audio out (headphone, 1/8") from a scanner and a SW
: receiver to one stereo headset.

I've done this before and most times it seems to work quite well.
Sometimes it was two scanners, or SW and scanner, or whatever. Just a few
hints;
Make sure that the receiver playing in your left ear is physically
on your left and right on right. You'll have a tendency to turn
in the direction of the sound you hear.

Think about putting a momentary switch in a little box to open
either side, much easier than scrambling for the volume when you
want to listen to "one side" only. Locate these in the box
opposite the side they are wired to, that way you press the side
you want to hear and the other drops out.

Don't listen to static or hash for a long time, it's amazing how
deaf you become right after you take the headphones off.

I tend to use "ear-buds" since they let me hear more of the
ambient sounds around me. YMMV

Don't chew gum or walk while using this set-up, you could put your
eye out! :>

I guess this way you'll only have to spend half as much time to hear
everything you want. I did run into one individual who used to do this
but he was listen to four receivers and could keep up with our
conversation. As far as I know he's still doing it, buried in some
"magic-mountain" (tm) somewhere.

-- Christopher Cartwright, Tech. Engineer | ...our chief weapons are fear,
-- Voice 301.295.0809 N3XRV | fear and surprise, and nice
-- Mail dsc3cjc@imc220.med.navy.mil | red uniforms, oh damn!!
-- ccart@erols.com | -- Monty Python

4813. Need help with silkscreen/DATAK labels

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Cal Eustaquio <ceustaqu@hertz.elee.calpoly.edu>
Message-ID: <Pine.ULT.3.91.960731061602.23609E-100000@hertz.elee.calpoly.edu>
Source record: 103651

Does anyone know of a good method of duplicating old radio logos with custom DATAK-type labels? I want to avoid silkscreening and heard there exists a manufacturer or business who can take your design and turn it into a DATAK (rub on lettering) type of medium. I appreciate all suggestions and info on this querie. Cal.

4814. Re: digital radio receiver

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: dgould@usa1.com
Message-ID: <71f7cc$b30e.376@GRAYLADY>
Source record: 103652

In article <DvC485.7xK@seas.ucla.edu>, hansen@ee.ucla.edu says...
>
>I am interested in designing a digital radio receiver. (Actually, an
>analog front end and digital IF and demod.) I'm looking for
>suggestions for an A/D converter - I'd like a 1 MHz sampling rate with
>12-14 bits, 16 if possible. Thanks.
>
>Chris Hansen, KQ6DW
>
>
That's something I've wanted to do myself when I have the time
and ambition. :)

Try the comp.dsp group for advice on the digital part of your
project, I've seen a few threads about digital radios there so
there is some interest.

Check out 'http://www.graychip.com/' for some cool digital radio
chips.

Also, Analog Devices makes A/D converters and DSP processors
suitable for digital radios.

Dana WA1UIW

4815. Re: Digital Microwave Radio

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Jake Brodsky <frussle@erols.com>
Message-ID: <31FFCBF5.160E@erols.com>
Source record: 103653

Try http://www.tapr.org/~n6gn/uwavelink/faster.html ...
See also the 1994 ARRL Handbook. (not later editions)
73,

Jake Brodsky, mailto:frussle@erols.com
PP-ASEL-IA, Cessna Cardinal N30946, Based @ MD24
Amateur Radio Station AB3A
"Beware of the massive impossible!"

4816. 15v Too much for mobile r

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: n0nas@hamlink.mn.org
Message-ID: <838794078.AA06916@hamlink.mn.org>
Source record: 103654

GA>Date: Tue, 16 Jul 1996 14:24:37 GMT
GA>I've thought of another thing too. Most of the TO-220 3 terminal
GA>regulators can only handle 1 amp. This application needs more
GA>current. A solution to that, at the cost of another 0.6 volt,
GA>can be had by having the regulator drive the base of a series
GA>pass transistor like a 2N3055. Then the regulator transistor
GA>...........
GA>Gary Coffman KE4ZV

Hi Gary.

I like to use a PNP power transistor to boost a common three terminal regulator. Connect about 10 ohms (1/2 watt or better) between emitter and base of the transistor. Connect the emitter to the unregulated input source. Connect the input of the three terminal regulator to the base. Connect the collector to the output of the regulator. Be sure to add your usual bypass caps as recommended for stability of the regulator. As the regulated circuit starts drawing current, voltage drop across the resistor starts to turn on the PNP transistor. As the load increases the transistor supplies the lion's share of the load current. The three terminal regulator never sees much more than 1/2 amp. Of course you can adjust the resistor to match the max current of smaller regulators too. I've used up to 27 ohms, use what you have.

The main advantage of this circuit over the driven NPN transistor is that the three terminal regulator is maintaining full regulation at the output. In your circuit the output voltage is less than the regulator voltage and can vary as the current changes. As you mentioned, using a boost transistor this way eliminates the over current shut down function of the regulator. The National data book mentioned the simple circuit and also had a more complex version that retained over current shut down. I've never bothered with the complex circuit, I use a fuse instead.

So the circuit you choose can be determined by what you have available in parts. Have a good day.

Doug Reed, N0NAS email: n0nas@hamlink.mn.org
St Paul, MN

* SLMR 2.1a * We all live in a yellow subroutine.

4817. Re: Mod of the TRC-208 11M to 10M Help?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul31.133147.21502@ke4zv.atl.ga.us>
Source record: 103655

In article <4tlf3i$1hic@sol.caps.maine.edu> baack@midcoast.com (Jason Baack) writes:
>Hello all, I happen to stumble upon some of these OLD CB HT's for CB.
>(Radio Shack TRC-208 /4 channels, hi/low power BIG telescoping antenna...)
>
>Understanding that these units are transmitting in AM, how difficult would it
>be to convert to 10M am.?

Conversion is trivial. Just change the crystals and repeak the PA.
No other mods are necessary.

Gary

--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4818. Re: High and low Frequence Antannas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: w7el@teleport.com
Message-ID: <4to8vk$cos@nadine.teleport.com>
Source record: 103656
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

In article
<Pine.A32.3.92a.960731085943.118896B-100000@homer18.u.washington.edu>,
"'Cel' M. Mallary" <mmallary@u.washington.edu> wrote:
>Reminds me of a Navy instructor who when asked the same question about a
>Yagi, raised his eyebrows and dryly said " pretty good." 'Course the same
>guy,
>a day or two before, enlightened us about the "1/4 wave ground plane" or
>the "Marconi whip" antenna. Seems Marconi had been working through a
>summer draught trying to prove a base fed 1/4 wave rod with it's insulated
>base stuck in the ground, would produce a nice 360 deg. toroidal radiation
>pattern. After a fruitless few days, Marconi threw up is hands and said
>"Aww piss on it". Well one of his grunts did just that and all of a
>sudden the antenna started working. And that's the honest to gosh
>beginning of all those little 1/4 wave whips you see on cars nowdays.
> ((-:jm:-))

So that's what a pissant is.

Roy Lewallen, W7EL

4819. Re: "Y" adapter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Leon Heller <Leon@lfheller.demon.co.uk>
Message-ID: <838831867snz@lfheller.demon.co.uk>
Source record: 103657
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <4tnm7o$ur6@nw101.infi.net> crtoy@fyiowa.infi.net "Scott Ryan" writes:

> I'm looking to purchase or build a "Y" adapter that will allow me to
> connect the mono audio out (headphone, 1/8") from a scanner and a SW
> receiver to one stereo headset.
>
> My thought is to connect the SW receiver to the left channel of the
> headset and the scanner to the right channel, so as to listen to both
> audio's at once. Will this create any negative effects (feedback, etc.)
> to the headset or the receivers?

Some military radio users do this sort of thing all the time, without
any problems. They also have a switch which enables them to transmit on
either of the nets they are monitoring.

Leon
--
Leon Heller, G1HSM | "Do not adjust your mind, there is
E-mail leon@lfheller.demon.co.uk | a fault in reality": on a wall
Phone: +44 (0)1734 471424 | many years ago in Oxford.

4820. Re: WTD: Simple 50MHz tcvr kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: ccart@erols.com
Message-ID: <4to9ur$i24@news15.erols.com>
Source record: 103658

Martin Davies (Martin@amdavies.demon.co.uk) wrote:
: Does anyone in the USA know of any suppliers of kits for
: building simple 50MHz SSB transceivers?
:

Not sure if the <$200> was USD or GBP, but, the MFJ-9406X is USD $260 retail and about 10% less almost everywhere. Not a kit as far as I know but it would get them "on the air" which is the goal. I think it's about $10 less without the microphone.

Disclaimer: Just a happy MFJ cutomer who happened to have the AES catalog next to him when he read the post.

--
-- Christopher Cartwright, Tech. Engineer | ...our chief weapons are fear,
-- Voice 301.295.0809 N3XRV | fear and surprise, and nice
-- Mail dsc3cjc@imc220.med.navy.mil | red uniforms, oh damn!!
-- ccart@erols.com | -- Monty Python

4821. Re: Suggested IF frequencies

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: rheiss@tuba.aix.calpoly.edu
Message-ID: <4tofra$2gjk@tuba.aix.calpoly.edu>
Source record: 103659

In article <Ks8aDKAi2v$xEw2m@ifwtech.demon.co.uk>,
Ian White, G3SEK <G3SEK@ifwtech.demon.co.uk> wrote:
>
>The "classic" design which does invert sidebands is a VFO in the 9.0-
>9.5MHz region with a home-made 5MHz filter using surplus FT243 crystals
>in cascaded half- or full lattices. These xtals were available in the
>5MHz region, but not as high as 9MHz.

Yes, but your "classic" rig doesn't tune backward on 75m. Gary's does.
And you might want to move your IF up a couple hundred kc ...

73, Rob KO6KA
rheiss@calpoly.edu

4822. Re: Help SB-300 S meter/AGC

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960731000641704 32@zetnet.co.uk>
Source record: 103660

In message <4t9h17$opn@nadine.teleport.com>
lroland@teleport.com (Roland) writes:

> Thanks for reading..... I have and SB-300 with a problem in the AGC
> circuit or S meter circuit. With AGC off I get little or no reading
> in the S meter. Switching in the AGC in either fast or slow restores
> the S meter but degrades signal quality. Any ideas? Radio works ok
> otherwise, tubes test ok and voltages are in the ballpark. Thanks.
> /John WB7SWB E-mail lroland@teleport.com
> Packet WB7SWB@W0RLI

John ,An S-meter circuit usually derives its signal from the AGC in
any superhet (but for professional rx) .This means that when you
switch off AGC your S-meter will no longer respond or hardly respond.

Frank Dinger , Inver by Tain , Ross-shire - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4823. Any cool amateur radio online?

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Christina Craft <103732.2211@CompuServe.COM>
Message-ID: <4tohpk$89s$2@mhafc.production.compuserve.com>
Source record: 103661
Cross-posted to: in.ham-radio,ott.events,ott.general,rec.radio.amateur.equipment,rec.radio.amateur.homebrew

I've been looking endlessly for some cool amateur radio broadcasts (preferably live stuff) on the net. I realize the technology is still fairly expensive so it's hard for people to broadcast on RealAudio or Streamworks but I'm interested in hearing some stuff out there.

If you know of places where I can find this kind of live broadcast I'd really appreciate being pointed to it.

I've done countless searches and must be putting in the wrong key words.

Is anyone out there doing some amateur stuff or is it mostly the mainstream doing online live broadcasts?

Your help is appreciated

email to ao349@freenet.carleton.ca

Cheers!

4824. Re: "Y" adapter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: gsparks@ix.netcom.com
Message-ID: <4tojam$2k0@dfw-ixnews10.ix.netcom.com>
Source record: 103662
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In <n1istDvFD4H.GEn@netcom.com> n1ist@netcom.com (Michael L. Ardai)
writes:
>
>In article <31FF8CC9.6F95@fuwutai.lucent.com> Sheldon Darack
<shel@fuwutai.lucent.com> writes:
>-Sounds fine. You need two mono plugs (one for each radio) and one
stereo
>-jack. Also two lengths of two conductor speaker wire. Connect the
>-grounds together at the stereo jack. Audio from one mono plug goes to

>-the stereo jack "tip". Audio from the other mono plug goes to the
stereo
>-jack "ring".
>
>Just keep in mind that this will create a common ground connection
between
>the two radios. Usually it's not a problem, but may be in certain
setups.
>/mike
>--
>\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
>-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
>/|\ or send "info barc-list" to listserv@netcom.com /|\
You may it also find it will drive you crazy, I tried a setup like this
for a while and couldn't handle it.

I always intended to build something that would sense the audio level
and break in when something was coming from the non-priority set.

Sparky KI5GY

4825. HELP!!! TRYING TO LOCATE A JOHN NEVES OF CA.

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: xl3381@aol.com
Message-ID: <4tojd7$ajc@newsbf02.news.aol.com>
Source record: 103663

I am trying to get in contact with a John Neves of California who had an article in Electronics Now (Nov. '93) about the constrution of an FM diversity antenna for car stereos. Hopefully someone will know how to reach him on the Net or otherwise! I am having trouble getting the circuit to work properly.

Thanks-
XL3381@aol.com

4826. 2M amp. Schematics???

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Steve157@msn.com
Message-ID: <00001fee+00001937@msn.com>
Source record: 103664

Does anyone have some suggestions or full schematics for a 40-100W 2M amplifier for use as a mobile unit driven by a 5W HT?? I would greatly appreciate any help. Steve KF4CXB

4827. Re: "Y" adapter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Sheldon Darack <shel@fuwutai.lucent.com>
Message-ID: <31FF8CC9.6F95@fuwutai.lucent.com>
Source record: 103665
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

Sounds fine. You need two mono plugs (one for each radio) and one stereo jack. Also two lengths of two conductor speaker wire. Connect the grounds together at the stereo jack. Audio from one mono plug goes to the stereo jack "tip". Audio from the other mono plug goes to the stereo jack "ring".
Enjoy,
Shel WA2UBK

Scott Ryan wrote:
>
> I'm looking to purchase or build a "Y" adapter that will allow me to
> connect the mono audio out (headphone, 1/8") from a scanner and a SW
> receiver to one stereo headset.
>
> My thought is to connect the SW receiver to the left channel of the
> headset and the scanner to the right channel, so as to listen to both
> audio's at once. Will this create any negative effects (feedback, etc.)
> to the headset or the receivers?

4828. Re: SPELLING PLEASE

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: bob.roach@sourcebbs.com
Message-ID: <8C582BE.0367000787.uuout@sourcebbs.com>
Source record: 103666

>-OK. There is no longer ANY commercial or military usage of CW. There
>-will sonn be too few amateurs left who can copy it for it to be of any
>-use in an emergency. Why shove it down everyone's throat when only a

They'll be around as long as they want HF privileges.

73 de KE4QOK
Bob

* SLMR 2.1a * 666bps - communication rate of the beast

This message originated from: ---------- Selective Source BBS
------- Virginia Beach, Virginia
----- (804) 471 6776

4829. Re: Schematic for Motorola power amp/ Wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: bry1@erols.com
Message-ID: <4tnhf1$27e@news6.erols.com>
Source record: 103667
Cross-posted to: dc.ham-radio,rec.ham-radio,rec.ham-radio.swap,rec.radio.amateur,rec.radio.amateur.antenna,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.swap

"David Stansberry" <davidsta@cannet.com> scribbled:

#>I need the schematic for a Motorola power amp Model #N1274A. This is a 2
#>meter 65 + watt amp. Thanks in advance!!

#>73's
#>Kc8eey

Try these sources:MANUALS: List by AF4K updated 25-MAR-96
#########

Updated copies downloadable from BBSes at:
(301) 681-7782, (301) 942-2218, (301) 299-3292, (301) 563-1306
(301) 417-6952, (202) 619-1494, (202) 208-7679, (301) 933-8251

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WWW: http://www.nd.edu/~shideg/

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Belmar, NJ 07719
Test equipment and manuals (HP, Tek, etc..)

Robert Fowle (517) 789-6721
The Hammarlund guy
Hamrlund@aol.com
1215 Winifred Hammarlund & Collins manuals etc.
Jackson, Mich. 49202-1946 sales catalogs, Sams etc.

Eico Electronic Instruments Co., Inc.
363 Merrick Rd
Lynbrook NY 11563
Note: No current kits, EICO manuals and schematics only

Alton H. Bowman No phone number given
4172 East Avenue radio, TV, amateur, misc.
Canandaigua, NY 14424-9564 Schematics & info 1920 - 1970

Charles Larus, K4CAD
5421 Tuckahoe Lane
Richmond, VA 23226 Heathkit & other manuals, copies.

Brock Publications (619) 757-0372
P.O. Box 5004
Oceanside, CA 92052 Swan, Cubic, Siltronix, Atlas manuals

ckimber@infowest.com

K9FG Vintage Manuals (800) 807-6146
Address needed

Manuals Plus (206) 531-8031
P.O. Box 937 (206) 536-1121 (fax)
Spanaway, WA 98387-0937 Test equipment manuals, no catalog
Office Hours: 8:30 a.m. - 4:00 p.m. Pacific Time, M-F

Pete Markavage (908) 238-8964
27 Walling Street Send two 29c stamps for a catalog.
Sayreville, NJ 08872 3,000 amateur & related manuals.
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Bartlesville, OK 74006 SASE for catalog or call.

The Manual Man (908) 238-8964
Pete Markavage
27 Walling Street
Sayreville, NJ 08872

Harris Semiconductor
Applications sheets and data sheets via Internet!
Harris' web page is http://rel.semi.harris.com:80/

Hi-Manuals No phone number given
Box 802
Council Bluffs, IA 51502 Catalog $2.00

Jay Stanfield
3212 Rita Lane
Fort Worth, Tx 76117 Jay has a lot of Heathkits and manuals

Deane E. Kidd, W7TYR (503) 625 7363
27270 SW Ladd Hill Road,
Sherwood, OR 97140.

East Coast Transistor Parts, Inc. (800) 637-0388
2 Marlborough Road,
West Hempstead, N.Y. 11552

Miles Gillie (919) 847-2489
Address needed
c/o Internet address: miles.gillie@mms.raleigh.nc
Or via Newsgroups: rec.radio.amateur.homebrew
Manuals for Sw radios, commercial 2-way etc. $15.00 each

Motorola Semiconductor
Applications sheets and data sheets via Internet!
Motorola's page is at http://motserv.indirect.com/

AG Tannenbaum Co., (516) 887-0057
POB 110,
East Rockaway, NY 11518 Manuals

##
If you have additions, send them to me and I'll gladly add them to this
list. Most of these companies will gladly send you a catalogue if you call
or write requesting one. Also, if you find that one or two of these
companies are out of business, PLEASE drop me a message & let me know
about it so I can delete them!

This list was prepared by AF4K, Brian Carling 23 Mar, 1996
Please send additional sources for inclusion in this list.
brian.carling@acenet.com

#>davidsta@cannet.com

Hello from Washington, DC - home of the WASHINGTON CAPITALS
ice hockey team. Watch for them next season!

4830. HELP! HELP! PLEASE with FM car diversity circuit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: xl3381@aol.com
Message-ID: <4toi4i$a7s@newsbf02.news.aol.com>
Source record: 103668

I had someone build an FM car diversity antenna which is not working properly. FYI, the theory behind the antenna is that there are two anntennas whose pilot subcarrier signal strengths are constantly compared and the circuit switches to the antenna with the best reception to reduce multipath interference. If anyone is interested in trouble shooting of this kind (in the Chicago area) I have a .gif of the schematic to send if you want to look it over. I'd be grateful for some help with this or any referals to someone else who would be!

contact me at:

XL3381@aol.com

4831. Re: "Y" adapter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: n1ist@netcom.com
Message-ID: <n1istDvFD4H.GEn@netcom.com>
Source record: 103669
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.equipment

In article <31FF8CC9.6F95@fuwutai.lucent.com> Sheldon Darack <shel@fuwutai.lucent.com>
writes:
-Sounds fine. You need two mono plugs (one for each radio) and one stereo
-jack. Also two lengths of two conductor speaker wire. Connect the
-grounds together at the stereo jack. Audio from one mono plug goes to
-the stereo jack "tip". Audio from the other mono plug goes to the stereo
-jack "ring".

Just keep in mind that this will create a common ground connection between
the two radios. Usually it's not a problem, but may be in certain setups.
/mike
--
\|/ Michael L. Ardai N1IST n1ist@netcom.com \|/
-*- === Boston Amateur Radio Club: http://www.barc.org/barc === -*-
/|\ or send "info barc-list" to listserv@netcom.com /|\

4832. Manual or Schematics for HP3746A Selective Level Meter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: DD2KO <101503>, 2417@Compuserve
Message-ID: <4to175$p40@nwd2nws1.analog.com>
Source record: 103670

Need copy of circuit diagram or manual for HP test set HP3746A Selective Level Meter. Contact DD2KO Compuserver 101503,2417. Thanks and VY 73 de DD2KO.

4833. homepage revised

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Dave Booth <booth@pactitle.com>
Message-ID: <31FFFC41.3F54@pactitle.com>
Source record: 103671
Cross-posted to: rec.ham-radio.swap,alt.radio.scanner,rec.radio.amateur.antenna,rec.radio.amateur.digital.misc,rec.radio.amateur.dx,rec.radio.amateur.equipment,rec.radio.amateur.homebrew,rec.radio.amateur.misc,rec.radio.amateur.policy,rec.radio.amateur.space,fidonet.ham,rec.ham-radio,rec.ham-radio.packet,rec.ham-radio.swap,slac.rec.ham_radio,su.org.ham-radio,swb.lists.linux.hams,rec.radio.swap,tnn.radio.amateur,uwarwick.societies.amateur-radio

I just revised my homepage if you want to check it out.
new stuff!
--
Dave Booth
kc6wfs

4834. Frequency synth construction - Help wanted

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Alex Crow <101470.2134@CompuServe.COM>
Message-ID: <4tnun0svr1@mhadg.production.compuserve.com>
Source record: 103672

I was wondering if anyone knew about the MC145152P synth chip. I am considering building a huge project- a 150k to 30M gen cov RX. It is based on the Lowe HF125 with front end bandpass filters, full synthesis, 1st IF 45Mhz with 15kHz Xtal filter, 2nd IF 455kHz, all double-balanced mixers etc.
Is this chip easy to use? Is it simple to keep down the spurii without the use of a spectrum analyser? I know they always say 'don't build a synth without one' but surely a little over-engineering of the loop filter and care with keeping the capture ratio required low with help this? I have built single and multi band DC and superhet RXs before with good results, but would rather not shell out for an off-the-shelf gen cov, and I'd like the challenge!
Another question - is it better to match filters directly from the mixer using coils/tuned circuits or to use FET matching buffers???
Thanks in advance
Alex, Birmingham, UK

4835. Re: High and low Frequence Antannas

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: "'Cel' M. Mallary" <mmallary@u.washington.edu>
Message-ID: <Pine.A32.3.92a.960731085943.118896B-100000@homer18.u.washington.edu>
Source record: 103673
Cross-posted to: rec.radio.amateur.homebrew,rec.radio.amateur.antenna,rec.radio.amateur.equipment,sci.electronics.repair,sci.electronics.equipment,sci.electronics.design,sci.electronics.misc

> >
> >> A Guy named Moe (skubik@mailhost.oxford.net) wrote:
> >> : Where can i get information on different types of antannas, how to
> >>build them and **how they work?**
> >
> > Try the ARRL Handbook.

Reminds me of a Navy instructor who when asked the same question about a Yagi, raised his eyebrows and dryly said " pretty good." 'Course the same guy,
a day or two before, enlightened us about the "1/4 wave ground plane" or the "Marconi whip" antenna. Seems Marconi had been working through a summer draught trying to prove a base fed 1/4 wave rod with it's insulated base stuck in the ground, would produce a nice 360 deg. toroidal radiation pattern. After a fruitless few days, Marconi threw up is hands and said "Aww piss on it". Well one of his grunts did just that and all of a sudden the antenna started working. And that's the honest to gosh beginning of all those little 1/4 wave whips you see on cars nowdays.
((-:jm:-))

4836. Re: WTD: Simple 50MHz tcvr kit

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Frank Dinger <frank.dinger@zetnet.co.uk>
Message-ID: <19960731222425704 32@zetnet.co.uk>
Source record: 103674

>> I'm sure there might be quite a decent market for a simple QRP
> 6m SSB rig, not only for Novices!

> --
> Martin Davies, G0HDB
> Email g0hdb@amdavies.demon.co.uk
> Packet BBS g0hdb@gb7glo.#46.gbr.eu

==========
Martin, Have a look at G-QRP Club ,mag: Sprat -issue 50 Spring'87 p6-9
A 50 MHz DC Transceiver ,by G4VSO
Also p36-37 A 50 MHz All-Mode transceiver, by G8SEQ

I am sure George Dobbs,G3RJV can provide more info. His e-mail address :
g3rjv@gqrp.demon.co.uk

Frank Dinger , Inver by Tain , Ross-shire IV20 1RX - Scotland UK
e-mail : gm0csz.kn6wh@ukrs.org
Packet : GM0CSZ @ GB7NOS.#76.GBR.EU

4837. Re: 455KHz 500Hz CW filter

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: kmec@aol.com
Message-ID: <4tmmhm$i5d@newsbf02.news.aol.com>
Source record: 103675

Hi Peter;
Read your inq. re 455 KHz filters, 500 Hz BW. If your friend does not turn any up, I have a pretty good selection of new Collins mechanical filters, including 455KHz C.F. types with 100, 200 and 500 Hz bandwidths. I get $75.00 ea. for the narrow bandwidth ones (1 KHz and down) and for ones >1 KHz and up, $60.00.

Jeff Kruth, WA3ZKR

4838. 148gtl 10 meter conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: hacker <hacker@flash.net>
Message-ID: <31FF1257.2DEE@flash.net>
Source record: 103676

if you know where I can get
the plans for this, I would
be greatly appreciative.
thanks

4839. CB 2 10meters

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Nuno Sucena Almeida <slug@algures-pt>
Message-ID: <sqqot4.j5.ln@localhost>
Source record: 103677

Hello... could someone tell me were can i find the plans of
a Guaranty 4000 CB Radio ? I would like to convert it to 10 meters
operation...

Answers in this group or slug@cygnus.ci.uc.pt

bye

Nuno Sucena
slug@cygnus.ci.uc.pt slug@ciunix.uc.pt slug@bbs.aeminium.pt
http://www.ci.uc.pt/~slug/ http://www.aeminium.pt/~slug/
CT1FOX CQG9304 CQM9228 Eng.Electrote'cnica FCTUC

4840. HP3746A Manual

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: DD2KO <101503>, 2417@Compuserve
Message-ID: <4to4jv$p7r@nwd2nws1.analog.com>
Source record: 103678

Anyone able to help with Schematics or Manual of HP3746A Selective Level Meter.
DD2KO Compuserve 101503,2417. Thanks and VY 73.

4841. Re: 2m wx radio conversion

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: gary@ke4zv.atl.ga.us
Message-ID: <1996Jul31.144010.21837@ke4zv.atl.ga.us>
Source record: 103679

In article <4tlog0$1a@herald.concentric.net> Davew@cris.com (Dave Harrison) writes:
>I have an older Radio Shack weather radio. It's crystal controlled, and
>it looks like it uses a single 16.202MHz crystal which I think is
>multiplied 10, and has a single 455kHz if (i think). Can I just replace
>the crystal to make a 2m rx? I just want a single frequency receiver that
>I can do a dtmf decode on to launch high power rockets. (the safe distance
>for some of the rockets we fly at our experimental launches is 1/2 mile to
>1.5 miles, and yes do get FAA waivers, land owner permission, comply with
>ATF rules...). Will I need to adjust coils/inductors? Any suggestions on
>a crystal source?

Yes, you'll need to modify the front end inductorsi (add turns). They
won't come all the way down to 2m with just tweaking. (Alternately, you
can add padder capacitance to bring the radio down in frequency.)

The radio isn't very high performance, of course. Nor is it even slightly
secure. I'd want something a bit better to control pyrotechnics. At the
very least I'd require CTCSS on the link so that Joe HT won't inadvertently
fire the thing while you're hooking it up.

Gary
--
Gary Coffman KE4ZV | You make it, | Due to provider problems
Destructive Testing Systems | we break it. | with previous uucp addresses
534 Shannon Way | Guaranteed! | Email to ke4zv@radio.org
Lawrenceville, GA 30244 | |

4842. Helical Resonators

Newsgroup: rec.radio.amateur.homebrew
Date: 1996-07-31 00:00:00 UTC
From: Mark Hillier <Mark@HVWTech.com>
Message-ID: <3200417D.6D18@HVWTech.com>
Source record: 103680

John,

There is a fine set of plans in: "Transmitter Hunting:Radio Direction Finding Simplified" by Moell and Curlee TAB Books ISBN 0-8306-2701-4 Starting on P179.

You might also like to check out the classical filter reference by Anitol Zverev and a fine (if not a little technical) book by Peter Vizmuller (ISBN 0-89006-244-7).

Enjoy,

Mark, VE2HVW